ARMY

JULY 1957
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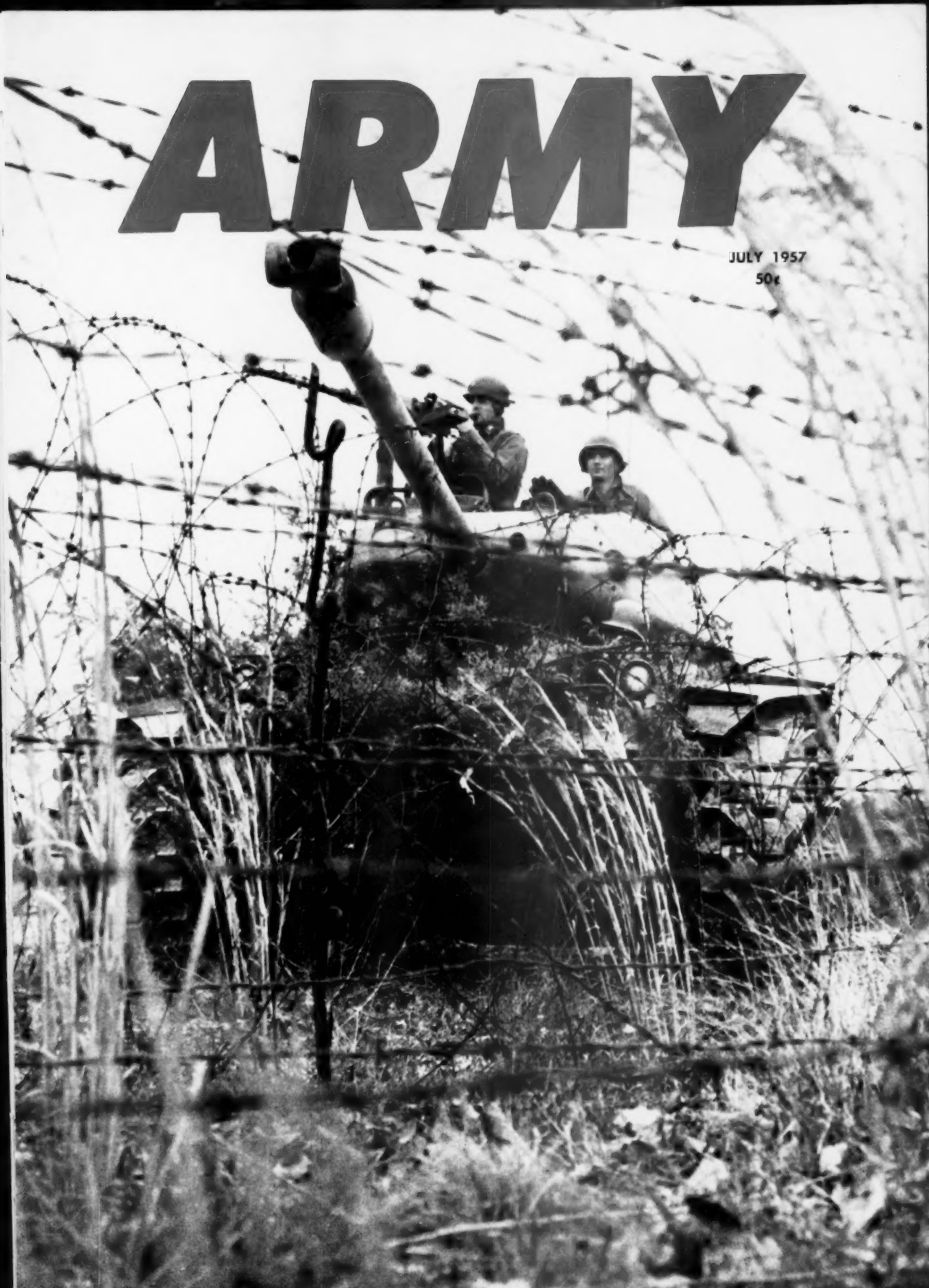

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ARMY

magazine of the **ASSOCIATION OF THE UNITED STATES ARMY**

Vol. 7 • No. 12 • July 1957

ARMY is a professional military magazine devoted to the dissemination of information and ideas relating to the military art and science representing the interests of the entire Army. *ARMY magazine strives to—*

Advance man's knowledge of warfare in the fields of strategy, tactics, logistics, operations, administration, weapons and weapons systems.

Advance man's knowledge and understanding of the soldier as an individual, as a member of a trained unit, and as a member of the whole Army; emphasizing leadership, esprit, loyalty, and a high sense of duty.

Disseminate knowledge of military history, especially articles that have application to current problems or foster tradition and create esprit.

Explain the important and vital role of the United States Army in the Nation's defense and show that the Army is alert to the challenges of new weapons, machines, and methods.

Advance the status of the soldier's profession.
—*AUSA By Laws, Par. 13 Article II*

THE MONTH'S COVER

Ready for all comers, an M41 tank of the Second Armored Cavalry Regiment stands guard against a simulated enemy during a recent training exercise at Fort George G. Meade, Maryland. The alert tank crew awaits attack by Aggressor forces, portrayed by other troops of the regiment manning M48 tanks.

ARMY is published monthly by the Association of the United States Army. Publication date: 25th of preceding month. Publication, Editorial and Executive Offices: 1529 Eighteenth Street, N.W., Washington 6, D. C.

Entered as Second Class Matter at Washington, D. C., additional entry at Richmond, Va., under the Act of March 3, 1879.

Articles appearing in *ARMY* do not necessarily reflect the opinions of the officers, or members of the Council of Trustees of the Association of the U. S. Army, or the editors.

RATES. One year $5.00; two years $9.00 when paid in advance; three years $12.00 when paid in advance. Subscriptions for libraries, civilian groups or activities, and others not eligible for membership in the Association of the U. S. Army $5.00 per year. Foreign subscriptions $6.00 payable in advance. For other rates write Circulation Manager, 1529 Eighteenth Street, N.W., Washington 6, D. C.

ADVERTISING information and rates available from the Advertising Director or any of our advertising representatives, who are:

New York office—19 West 44th Street, Murray Hill 2-5254.

Chicago office—35 East Wacker Drive, Franklin 2-3460.

San Francisco office—Duncan A. Scott Co., Mills Bldg., Garfield 1-7950.

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FLYING CAMERA DOLLY

As an aid to pilot training, CWO Martin V. Wingrove has recently completed nine moving pictures covering all phases of helicopter flying from the basic rudiments to advanced maneuvers. For air-to-air shots he removed the bubble and converted a Bell H-13 into a flying dolly.

Mr. Wingrove wears the Distinguished Flying Cross, the Purple Heart and Air Medal with 12 Oak Leaf Clusters to show for his two tours as a fighter pilot in Europe. Following the war, he found his way into Army Aviation, graduated in 1951 with the first rotary wing class at Ft. Sill, and served two years as a helicopter pilot in Korea.

One of very few Warrant Officers who rate the starred wings of a Senior Army Aviator, Mr. Wingrove is now at the Army Aviation Center, Ft. Rucker, Ala. His vast experience gained in over 3,000 flying hours is being put to valuable use in training Army Avaitors of the future.

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THE MONTH'S MAIL

Forward to Terry Bull

● It took time, but *ARMY* made it. Terry Bull and Stone Borealis now have able successors. Congratulations on your May issue. Although for my money General Moorman, Dr. Kissinger, Captain Brown and, of course, General Marshall, are the bright and shining stars, the entire issue is altogether excellent.

Possibly in "What the Jest Was Worth" General Moorman was unconsciously keening at the wake of an old and dying order; but if so, I sincerely trust that Dr. Kissinger in "Strategy and Organization" was sounding the paean of the new.

Captain Brown in "Command Inspections" invites attention to a frequently disregarded point. Responsibility for inspection today is so delegated that the commissioned clerk actually inspecting the item or soldier is no longer aware of the inspection's purpose. When the Army's general officers numbered fewer than the leaves on the trees, I recall a major general looking at and commenting on errors in my company punishment book—and dirt in my coal bin. I seriously doubt that a senior officer has made a detailed inspection in years. The senior officers being those men with the experience, judgment and knowledge of the mission, *who* should be better qualified to conduct an occasional inspection? Let's cut down the number and improve the quality of our inspections by having the commanders conduct them.

Again, thanks for that issue. It was truly professional.

COL. ARTHUR K. AMOS
Buffalo, N. Y.

● *For our newer readers, Sgt. Terry Bull and Stone Borealis were popular exponents of new forms of warfare in the pre-World War II* Infantry Journal. *Sgt. Bull was the product of the mind of now Col. William S. Triplet, retired (he also invented Major Knutson Boltz). Stone Borealis was the pseudonym of a now major general on active duty.*

'The 100-Hour War'

● If at all possible, would you please send me 25 copies, or as many copies of the article as possible, of "The 100-Hour War," by Brig. Gen. S. L. A. Marshall, which appeared in the March issue of *ARMY*? It is one of the most outstanding articles that has been printed on the 100-hour war.

Although I am now retired, I had been in the Army eighteen years and, therefore, have made many, many Army acquaintances that I know would highly appreciate receiving a copy of this particular article.

Thank you for any consideration you may give me.

COL. S. W. CONNELLY
Willys Motors, Inc.
Toledo 1, Ohio

Israeli Tactical Know-How

● As an old-time subscriber to your professional magazine (this is the eighth year), permit me to question a little paradox in the tactical report by Brig. Gen. S. L. A. Marshall, "The 100-Hour War" [March].

To quote him in the first place, he stated, "Israel's ranks are not particular wizards at motor maintenance and battlefield repair." Then he contradicts himself, stating, on the same page, "In battle the fighters do most of their repair. They explain: 'Most of us are farmers. We learn the knack on tractors'," and on the next page: "In their several engagements the three columns had thirteen vehicles knocked out. Forty-eight hours after the fighting ceased, all vehicles were again road worthy."

If this is not technical know-how and battlefield repair, then what is it?

I have read many of General Marshall's books and reports and I like his writing very much. He is a great military reporter, and understands second to none the psychology and the thinking of fighting men.

CAPT. DAVID YARKONY
Israel Defence Army
APO 2614, Israel

'The Wearing of the Green'

● I can't see why Major Multissimus [The Wearing of the Army Green] in the May issue wants to remain anonymous after writing such a fine article. I'd like to know who he is so I could pat him on the back.

I too worry about the fate of the Army Green, and wonder what steps, if any, the Army plans to keep it a respected military uniform. Or is it inevitable that it will go the way of the o.d. and be the unofficial uniform of county road workers, garagemen, and farmers?

CAPT. ELLSWORTH NELSEN
Maryville, Mo.

● Three cheers for Major Multissimus! It's a shame he didn't put his name on his article. He deserves a medal for writing it. And cheers to *ARMY* for publishing it!

I found summer had finally arrived in my Washington community when our garbage man showed up in his suntan uniform (the past winter he had worn a shade 33 Ike jacket adorned with the patch of one of our finest combat divisions). He tells me that his son-in-law will be discharged from the Army in two more years, so now perhaps I can look forward to seeing our garbage collector appear in more formal attire—perhaps the new shade 44 green. Remedial legislation should be passed to stop this practice.

I also sincerely hope that the Bilko program isn't getting any support from the Army. It certainly shouldn't.

CAPT. THOMAS M. WAITT
Washington, D. C.

● *We wonder too. Representative Paul Kilday has introduced a bill designed to bar the wearing of the uniform by persons not in the service, but its fate is problematical at this writing.*

● Why did Major Multissimus choose to remain unknown? I would have been proud to have written his "The Wearing of the Army Green" in the May issue.

Bravo for Captain Brown and his "An Inspection of Command Inspections"! Them's my sentiments exactly.

LT. COL. FRANCIS M. MCCULLAR
APO 122, NYC

Standards of Dress

● General Moorman rates a salute for "What the Jest Was Worth" [May]—one of the finest articles I have had the pleasure of reading. I did not know the noncommissioned officer caste he described as lost, but I have known many of its former members and all have my respect

and admiration. I have never served with a man without learning something from him. We should indeed help to restore their birthright. The Army would be better for it. Where indeed can a man go if there is no top?

One can take issue with General Moorman on only one point. Some of our "gentlemen" do have minimum standards of dress. Shirts too often have sleeves which end at the elbow, trousers reach to or above the ankle, headgear is left over from World War II. This our Army (I'd like to say mine, but some readers would probably take exception and call it theirs) and I want always to see its best foot forward. We should now have maximum standards of dress. I can't afford it, but my good wife has already told me I can have enough greens to properly clothe myself. (She'll wait another year for a new coat; she has already waited one, for I had to have blues last year.) I can't imagine myself standing in front of a battery or company more poorly dressed than any man present.

Some of our "gentlemen" feel that "minimum standards of decorum" means to wear a loose-fitting costume while dancing at the local club bar waving a beer mug. These few (who give us our name) are in my army, but they certainly are not part of it.

Let's all be declared security risks and demand a rigid insistence on established and formalized courtesies.

CAPT. CHARLES L. DAWSON
Florence, Ala.

A Ribbon for Korean Service?

● I have heard a great deal of critical comment among people over here concerning the fact that there is no ribbon for service in Korea, despite the conditions of constant tension and alert. Granted that there is no shooting, Eighth Army here (and Seventh Army in Europe and the Army AA command at home) are still on an alert standing all the time, with the prospect of sudden shooting for real always with us.

I think the Army might appropriately adopt a ribbon on the order of the Marine Corps' old Expeditionary Ribbon: the same ribbon would be authorized for service in any of the units I mentioned. For service in more than one, merely a metal numeral to denote qualification for the second or subsequent time.

I know there has been complaint that we have too many ribbons, and in some respects I agree. But the number of service ribbons merely reflects the conditions in which we live. We have plenty of precedent, going back more than fifty years. Consider the host of ribbons authorized for service after the Spanish-American War in the Philippines, Cuba, Puerto Rico and China (not just the Boxer Rebellion, either). Too many people take as a standard of comparison the period between the two world wars; actually, so far as operations are concerned, the Army did nothing at all for twenty years—the longest period of uninterrupted garrison duty to be found throughout its history.

Anyway, considering the number of people over here I've heard complaints from that there is not even this recognition for service here now, I believe such a ribbon would definitely boost morale. After all, we all recognize that whatever the generals and diplomatic strategists may say about "trip wires" and "plate glass theories," our function is much like that of the goat that is staked out waiting for the tiger.

MAJOR ALERT
Korea

Good Shooting by 865th Missile Bn

● I commend the staff on the outstanding job you are doing with the magazine. Since the first publication in February 1956 to the present issue, it is my opinion that each issue is improving. . . .

I do, however, wish to comment on the article, "Nike Firing Competition," on page 14 of the May issue. The article states that the 28th AAA Missile Battalion of Seattle outscored all other Nike units to win the first organized firing competition ever held between guided missile teams. Certainly this is correct. However, the article further states that other stand-out units include the 602d of the Washington-Baltimore defense and the 24th of Fort Banks, Mass. I would like to point out that the 865th AAA Missile Battalion of the Los Angeles defense was second only to the 28th AAA Missile Battalion. The 865th scored 9020 points and also bagged ten out of twelve targets.

COL. W. A. PERRY
Fort MacArthur, Calif.

● *The Editors of* ARMY *extend their apologies to the 865th AAA Missile Battalion. The release on which our item was based did not mention the good work of the 865th. We are glad to make amends.*

"The Security of the Nation"

● I became a member of AUSA in January of this year and have received all copies of *ARMY* starting with the January issue with the exception of the February issue. Naturally, I would greatly appreciate receiving that one, not only to complete a file of this informative journal but to use the information which it undoubtedly contains.

I read the release in *The New York Times* about the publication of our study on the problems of national defense, "The Security of the Nation." I assumed that

members of the Association would receive copies. How do we obtain one?

I want to congratulate the editors of *ARMY* for the increasingly important job they are doing. As a member of several service associations, I find that *ARMY* leads the field when it comes to articles that provoke thought upon the doctrine of war—today and tomorrow. The reprinting of Dr. Kissinger's article is a signal service to all Army personnel.

LT. ROBERT S. THOMPSON
Armor—USAR
Boston, Mass.

• *We were unable to print enough copies of "The Security of the Nation" for all our members. However we may be able to publish future studies of this kind as a special supplement of the magazine.*

Reader from Sweden

• After reading the interesting May issue of *ARMY* I must thank you very much for especially the splendid articles "Coordination and Muscular Movement in the Hedgerows" by Captain Martin Blumenson and "The Wearing of the Army Green."

I think the problems noted by the pseudonym "Major Multissimus" in the last article are the same in most democratic countries and highly technical armies of our day.

LT. K. A. KJELLGREN
School of Armor
Skövde, Sweden

'Erector-set Artillery' in the 101st

• In reference to Colonel Byrne's "Erector Set Artillery" [May], I would like to point out that his ideas on reorganization of the infantry battalion to include a weapons battery have already been tested and adopted by the Army in its reorganization of the 101st Airborne Division, which will, I believe, lead to reorganization of all infantry and armored divisions.

In place of battalions and regiments, however, the new organization gives a division five battle groups, each with a headquarters company, five (250-man) rifle companies, and a 105mm mortar battery.

The mortar battery is made up of artillery officers and enlisted men and is organized almost exactly as Colonel Byrne suggested. In addition to its headquarters and communications elements, it has two weapons platoons each with its own fire direction center, a survey section and five observer sections (one for each rifle company). It also has a liaison section and an air control team.

The battery commander is the fire support coordinator for the battle group and is responsible for establishing the group FSCC which besides coordinating the fires of the group's organic and attached weapons will certainly be a prime source of intelligence for the group commander.

CAPT. WALTER B. MILLER, JR.
Fort Campbell, Ky.

Let Them Know in Advance

• Recently I attended a one-day map exercise presented by an Army team from the Command and General Staff College. The project had been approved by CONARC and was being presented by expressed desire of the Army Chief of Staff. This indicated a top priority for attendance—but the importance of it was not made known in advance.

The invitation was matter-of-factly issued with no indication that the exercise was more than just another routine map problem. There was no emphasis that it was a priority project, that it would be superbly presented, that it was a vehicle that all services and all ranks could and should see and hear.

No general officers and only a very small group of other officers were present from one of the two major headquarters in the city where it was presented. Many felt let down *after* they discovered what a rich experience had been missed. The presentation team was available later during the same month, but the exercise was not repeated in the same locality.

More recently I heard a fifteen-minute talk by the Army Chief of Staff. As he expressed it, "I thought you would like to hear the scuttlebutt from Washington."

That was the most inspirational talk I've heard in many a year, and I've heard quite a few. It was by a master speaker giving a wonderful lesson in public speaking. The talk gave an insight into the problems that face top officials of the armed forces and the penetrating yet seemingly easy and simple answers to those problems. It covered the why of the latest thinking in the Army. There also was much in it for those of other services to ponder. I'm sure that talk would have helped to dissuade any junior officer thinking of leaving the Army.

But again, only a chosen few were selected to see and hear General Taylor. What a loss to those who could not be present!

I realize these are hindsight views, but why should we miss these once-in-a-lifetime opportunities? The facilities are available and so are qualified personnel ready, willing and able. Only a little imagination, explanation and guidance are needed in the right place to give many more officers lasting impressions which enrich our professional knowledge.

COL. N. A. CAMPBELL
APO 500, SF

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Helping Army units maintain radio communications is another of the many vital jobs performed by versatile Cessna L-19's. Other jobs: control of military highway traffic, fast transportation for field commanders, evacuating wounded, pilot training, courier work, flare dropping, airborne radio relay. During civil emergencies, L-19's are used by Army National Guard units.

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FRONT AND CENTER

Trainfire Ranges

CONARC plans Army-wide implementation of Trainfire, the new method of teaching rifle marksmanship.

Active Army installations within CONUS will be the first to build Trainfire ranges, with priority going to Army training centers and the U. S. Army Infantry School. Fort Jackson, S. C., already has contracted for the expansion of its range facilities to accommodate the change-over to Trainfire. It is expected that by 1959 conversion within the United States will be complete; by 1960, all overseas commands will have the new ranges; and by 1961, Army Reserve forces will have them.

Basically, Trainfire shifts the emphasis from the weapon to the man without changing the primary goal: to hit the target with the bullet. Trainfire teaches rifle shooting to trainees under conditions that simulate combat as closely as safety factors will permit.

The Secretary of the Army presents the Army flag to the U. S. Military Academy. *Left to right:* Mr. Brucker; Lt. Gen. Garrison H. Davidson, Superintendent, USMA; Cadet First Captain William Huckabee; and M/Sgt. M. M. McDonald of the 1st Regimental Combat Team

Reports of Jupiter's Success

An informant whom it identified as a "high-ranking scientist" told the Associated Press that the missile fired at Cape Canaveral, Fla., on 31 May was the Army's Jupiter and that it had "soared 700 miles into the atmosphere and was aloft for 17½ minutes—giving the missile an average speed for the distance [a reported 1,650 miles] of slightly more than 5,000 miles an hour." The test, this informant told the AP, was "completely, 100-percent successful."

Reportedly this was the third Jupiter firing at the Florida test site. The other two were unsuccessful. In addition, last September a device said to have been part of the Jupiter system has been reported to have flown some 3,000 miles at an undisclosed speed.

If these reports are true, the Army's Jupiter is well ahead of the Air Force's Thor IRBM, which has not yet flown so far as is known. In commenting on the reported 31 May flight of the Jupiter, Dr. Wernher von Braun of Redstone Arsenal told the Associated Press: "It is a difficult thing for a team which has the lead in eggs not to get an opportunity to hatch at least one of them. If we are really better than the other team we will win the race. I have confidence in the top management's ability to pick the best. For that reason I am quite confident. Technically we have nothing to fear."

The Army is assured of funds for the Jupiter through November of this year. If it is to be continued after that date funds will have to come from the Department of Defense or the USAF—to which Mr. Wilson gave responsibility for Jupiter in his controversial roles-and-missions decision of last November.

In the same report the Associated Press said that a scientist had told it that the Army has a completed missile capable of launching the earth satellite. This is the nearest thing to confirmation there has been of the story that while the Navy was having difficulty in developing a launcher for the 20½-pound earth satellite, the Army has had a device ready for months that would do it. The AP said that when it asked its scientist-informant whether this missile had been tested, he replied: "Yes and no. Let us just say that no further testing is necessary."

Three PR Awards

The Army recorded an unprecedented first in the 13th Annual Awards Competition of the American Public Relations Association by winning three awards. Secretary Brucker has sent letters of commendation to the commanders of the award-winning organizations.

- The South European Task Force commanded by Maj. Gen. Harvey H. Fischer received a Silver Anvil for promoting good will with the Italian people.
- The Seventh Army, commanded by Lt. Gen. Bruce C. Clarke, won a Certificate of Outstanding Public Relations for

fighting anti-American feeling in Germany after its restoration to sovereignty.

¶ The U. S. Army Infantry Center, commanded by Maj. Gen. Herbert B. Powell, was awarded a Certificate for its community relations program that won public approval from the nearby civilian communities.

Pentomic Reorganization

The over-all reorganization of the Army under the "Pentomic" concept is continuing.

Elements of the 2d Infantry Division, serving in Alaska, are being reshaped as self-contained, mobile battle groups of the Pentomic division. Elements of the division located in the United States will not be reorganized at this time.

Since the Pentomic division places more men in combat units, this change will permit gradual reduction of the total Army strength in Alaska without a loss in combat effectiveness.

In another step, the 5th Infantry Division, at Fort Ord, Calif., has been placed on inactive status. Its component regiments will be kept active and assigned as separate battle groups to other divisions. The actual military strength of Fort Ord will remain approximately unchanged, as present plans call for the activation of a replacement training center and expansion of the Combat Developments Experimentation Center.

Seecog

In a subcommittee room of the House Armed Services Committee each Tuesday morning at 0800, some 65 Army reservists, ranging from major general to chief warrant officer, attend the weekly training assembly of the U. S. Congressional Command and Operations Group (CCOG).

Of the eight Senators and 30 Representatives who are Army reservists, six Senators and 19 Representatives are members of CCOG. The remaining 40 members are Army reservists who are employees of the Congress or on the staffs of individual members of Congress.

CCOG (pronounced "seecog") is the only USAR unit assigned directly to the Office of the Chief of Staff of the Army. It is handled administratively by a major in the Office of the Chief of Legislative Liaison. Members are carried in an attached status from their local Reserve units or military districts and are on a non-pay status.

The weekly assemblies are addressed by high-ranking officials and officers from the Department of the Army. Secretary Brucker spoke at one meeting and General Taylor at another.

In addition to the weekly assemblies, CCOG arranges occasional field trips to Army installations in the Washington area.

The ranking officer of the group is Major General LeRoy H. Anderson, a Democratic Representative from Montana. Brigadier General Strom Thurmond, a Democratic Senator from South Carolina, is the other general officer in the group. The junior member is Chief Warrant Officer Vincent J. Dellay, a Republican Representative from New Jersey.

Major Exercises for FY 58

Eight major field and command exercises will be held in Kentucky, Washington, North Carolina, Louisiana, Nevada, Virginia and possibly Texas from 1 July 1957 to 30 June 1958. Largest will be twenty-day GULF STREAM in April at Fort Polk, involving 26,000 troops and including training with Nike Hercules. This CP will include parts of XVIII Airborne Corps and its artillery, 101st and 82d Airborne Divisions, 1st and 4th Infantry Divisions, 1st and 2d Armored Divisions, and other units.

RED ROCK, involving 19,000 troops for fifteen days, will be held at Yakima, Washington, probably in May. The 4th Infantry Division and other units will train with assault bridges, and conduct casualty reporting procedures and reconnaissance patrols.

Between 15 February and 15 March EAGLE WING, at Fort Campbell, will involve 18,000 troops of the 101st Airborne Division and other units for fifteen days in airborne reconnaissance, airborne movement of surgical hospital, aeromedical evacuation and loading techniques.

Fittingly, ALL AMERICAN, scheduled for fifteen days in October at Fort Bragg, will train 19,000 troops of the 82d Airborne Division and other units in training to include aeromedical evacuation and loading techniques, movement of field hospital by air, air transport of reconnaissance patrols and air-dropped observers.

The 1st or 2d Armored Division detachment and nondivisional units numbering 19,000 men will conduct STRONG

First enlisted man in the Army to get the opportunity to obtain a baccalaurate degree is Signal Corps. Sgt. First Class William B. McDonald as he shows Col. M. A. Kreidberg, PMST, the Army Regulation under which he is eligible to enter the University of Florida as a full time Engineering student

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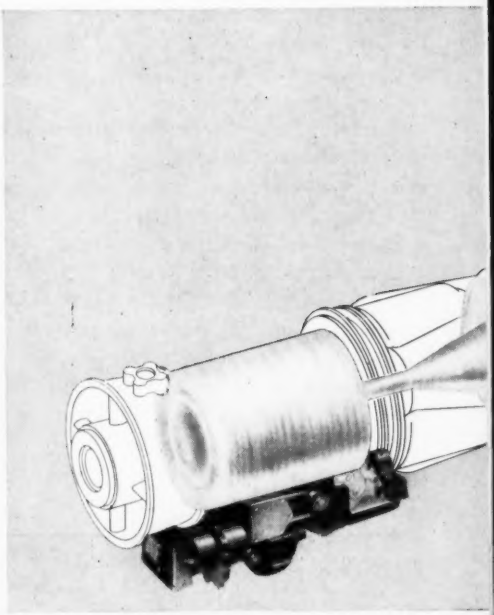

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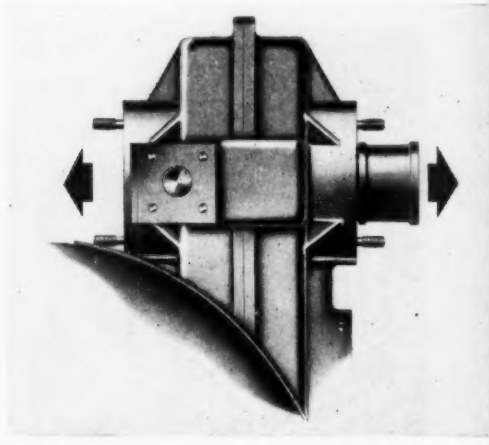

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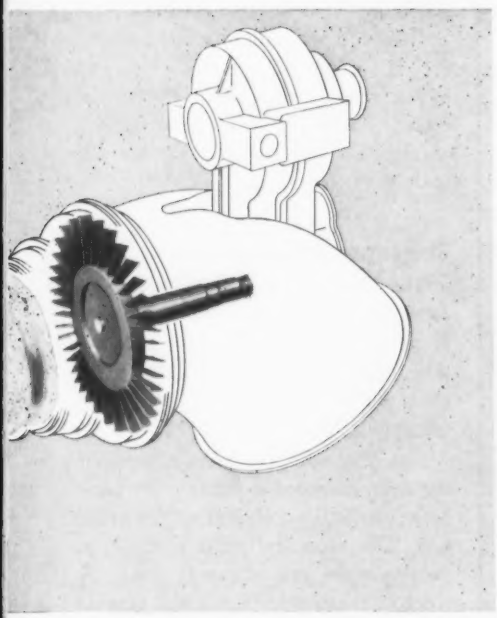
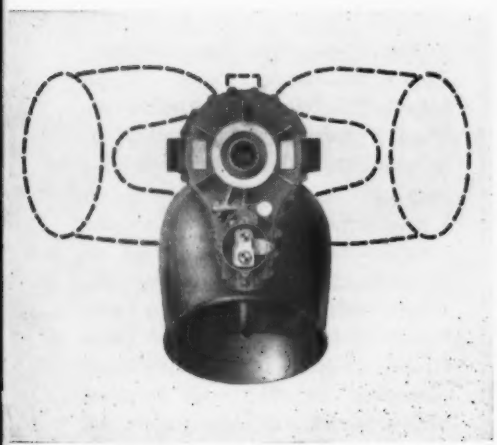


helicopter rotor to operate at best speeds for climb, cruise, or hover conditions.



T58'S 3-POSITION EXHAUST NOZZLE mounts vertically or at 90-degree angles.

Offers unmatched performance capability; advanced mechanical design features

Over 3:1 Power-to-weight Ratio—Packing more power per pound than any other gas turbine engine of comparable output, the T58 delivers 1024 horsepower yet weighs only 325 pounds (including 75-lb reduction gear). What will the T58's low weight mean to future helicopters? Drastic reductions in their gross weight—up to 40% faster cruising speeds—greater endurance—and vastly increased ton-mile capacity. In addition, the T58's advanced aerodynamic and lightweight mechanical design promises the same high reliability that has been *proven* in G.E.'s J47, J73, and supersonic J79 jet engines.

0.69 Specific Fuel Consumption (normal, with gear)—The T58's turbine inlet temperatures, pressure ratios and the aerodynamic design of its major components have been balanced to provide the highest possible operating efficiency over a wide range of helicopter flight conditions. Result: a *proven SFC* that rivals the piston engine for economical operation.

Automatic Rotor Speed Control—The T58's revolutionary new constant-speed control eliminates the need for speed adjustments by the pilot during normal flight operation. Combined with the T58's free power turbine, this new control automatically regulates engine output to meet changes in load or flight attitude, thus permitting the helicopter rotor to operate at the most efficient speeds for take-off, climb, cruise and hover.

Small Envelope Size—Measuring only 59 inches long by 16 inches at maximum flange, the T58 makes possible more compact engine compartment design, additional cargo space.

Versatile Exhaust & Power Take-off Arrangement—The engine's 3-position exhaust and fore or aft power take-off arrangement also simplify problems of designing or retrofitting engine compartments in either single- or multi-engine helicopters.

The T58 was developed for the Navy by General Electric's Small Aircraft Engine Dept. General Electric believes the T58's many features make it the best engine of its kind to transform the role and performance of helicopters into new levels of military and commercial usefulness. For detailed performance data, call your local G-E Aviation & Defense Industries Sales Office, or write: General Electric Co., Section 233-5, Schenectady 5, New York, for T58 brochure.

Progress Is Our Most Important Product

GENERAL ELECTRIC

ARM for fifteen days between 15 April and 31 May at Fort Polk. Training will include assault bridges, supply problems, evacuation hospital support of armored troops, air-transported reconnaissance patrols, air-landed infantry in support of armor, and casualty reporting procedures.

Alaska is the scene for COLD BAY, involving 1,600 troops of the 4th Infantry Division some time during January-March. Training will include aeromedical evacuation and loading techniques, and Army transport of troops and supplies.

LOGEX 58 will be held for six days at Fort Lee during May, to train 6,000 troops, including certain Reserve officers, stressing the importance of maintaining logistical support under combat conditions with an enemy capable of using atomic weapons, and demonstrating cooperation of the three services to provide logistical support in a theater of operations.

During June, July and August, DESERT ROCK VII and VIII will be held at Nevada Test Site. Training will include indoctrination of selected personnel, and provide equipment testing and training for certain units in operations featuring atomic weapons. The 3,000 troops will include one battle group from the 4th Infantry Division and other units, along with 3,000 observers.

1957 REUNIONS

1st Armored Division. 23-24 Aug. Bellevue-Stratford Hotel, Philadelphia, Pa. Write Col. Leo B. Conner, 1529 18th St., NW, Washington 6, D. C.

1st Cavalry Division. 30 Aug.-2 Sept. Congress Hotel, Chicago. Write Col. Edmund P. Stone, Box 201, Pomona, Calif.

1st Infantry Division. 23-25 Aug. Sheraton-Park Hotel, Washington, D.C. Write Arthur L. Chaitt, 5309 Germantown Ave., Philadelphia 44, Pa.

2d Armored Division. 2-4 Aug. Benj. Franklin Hotel, Philadelphia. Write R. F. Perry, PO Box 172, Alexandria, Va.

3d Armored Division. 25-27 July. Chicago. Write Paul W. Corrigan, 80 Federal St., Boston 10, Mass.

3d Infantry Division. 11-13 July. Claypool Hotel, Indianapolis, Ind. Write Harry Cedar, 1129 Warner Bldg., Washington 4, D. C.

4th Infantry Division. 8-10 Aug. Shoreham Hotel, Washington, D. C. Write Joseph Summa, 132 Avenue V, Brooklyn 23, N. Y.

5th Armored Division. 8-10 Aug. Manger Hotel. Cleveland. Write Lawrence Sawchak, 6308 Ackley Road, Parma 29, Ohio.

5th Infantry Division. 31 Aug.-2 Sept. Hilton Hotel, Chicago. Write Lloyd A. Rader, 451 E. Clay Ave., Roselle Park, N. J.

6th Armored Division. 29-31 Aug. Hotel Statler, Cleveland, Ohio. Write Martin J. Lawlor, 2150 Raymond Ave., Latrobe, Pa.

6th Infantry Division. 6-8 Aug. Penn Sheraton Hotel, Pittsburgh. Write James E. Wittstruck, 4201 B St., Lincoln, Neb.

7th Armored Division. 16-18 Aug. Hotel Statler, NYC. Write Irving Osias, 1064 Nelson Ave., Bronx 52, N. Y.

9th Infantry Division. 4-6 July. Hotel Statler, Boston. Write Stanley Cohen, PO Box 66, Livingston, N. J.

10th Armored Division. 31 Aug.-2 Sept. Commodore Perry Hotel, Toledo, Ohio. Write R. L. Bollinger, Pioneer, Ohio.

12th Armored Division. Aug. Write LeRoy W. Bensel, 2557 Main St., Lawrenceville, N. J.

17th Airborne Division. 9-11 Aug. Hotel Statler, Buffalo. Write W. A. Roncone, 802 Hiland Ave., Coraopolis, Pa.

24th Infantry Division. Aug. Write Edmund F. Henry, First Nat. Bank Bldg., Attleboro, Mass.

25th Infantry Division. 19-21 July. Hotel Statler, NYC. Write Thomas J. Badger, PO Box 101, Arlington 1, Va.

27th Infantry Division. Sept. Write Lawrence Reagan, PO Box 1403, Albany 1, N. Y.

29th Infantry Division. 31 Aug.-2 Sept. Lord Baltimore Hotel, Baltimore. Write B. F. Cassell, 505 W. Fayette St., Baltimore 1, Md.

30th Infantry Division. July. Write Major Saul Solow, 42 Parkway Drive, Hicksville, N. Y.

34th Infantry Division. 27-29 Sept. Nicollet Hotel, Minneapolis. Write Junior F. Miller, Red Horse Armory, Des Moines, Iowa.

37th Infantry Division. 30 Aug.-2 Sept. Hotel Sheraton-Gibson. Write Jack R. McGuire, 21 W. Broad St., Columbus 15, Ohio.

63d Infantry Division. 19-21 July. Hotel Sheraton, Philadelphia. Write F. E. Esslinger, Jr., 228 Kalos St., Philadelphia 28, Pa.

77th Infantry Division. Nov. Write J. Woolwich, 28 E. 29th St., New York 16, N. Y.

80th Infantry Division. Aug. Write Charles Gainer, Hotel Yorktowne, York, Pa.

81st Infantry Division. Aug. Write John Scholz, 843 W. Agatite, Chicago 40, Ill.

82d Airborne Division. 4-6 July. Hotel Sheraton-Gibson, Cincinnati. Write Cincinnati Chapter, 5572 Red Bank Road, Cincinnati 27, Ohio.

83d Infantry Division. 15-17 Aug. Hotel Roosevelt, NYC. Write Col. Robert H. York, Tactical Dept., TIS, Fort Benning, Ga.

88th Infantry Division. 15-18 Aug. Hotel Benj. Franklin, Philadelphia. Write Tony Mildner, 2443 S. Woodstock St., Philadelphia 45, Pa.

90th Infantry Division. 13-15 Sept. Hotel Leamington, Minneapolis, Minn. Write Howard A. Stotler, Box 1151, Beverly Hills, Calif.

94th Infantry Division. 18-21 July, Hotel New Yorker, NYC. Write A. E. Rodriguez, 614 Oakdale Ave., Chicago 14, Ill.

96th Infantry Division. Write Minor Butler, Box 144, Mount Erie, Ill.

99th Infantry Division. 19-21 July. Lord Baltimore Hotel, Baltimore. Write Dale Warren, Eagle Hill Road, Box 164, RD 7, Pasadena, Md.

100th Infantry Division. 6-8 Sept. Hotel Statler, Hartford, Conn. Write Thomas C. Burdett, 114 S. Main St., Taylor, Pa.

101st Airborne Division. 30-31 Aug. Penn-Sheraton Hotel, Pittsburgh, Pa. Write Col. Leo B. Conner, 1529 18th St. NW, Washington 6, D. C.

102d Infantry Division. July. Write Lewis E. Grabke, 8120 Grayfield, Dearborn, Mich.

106th Infantry Division. 25-27 July. General Oglethorpe Hotel, Savannah, Ga. Write James E. Wells, Hepzibah, Ga.

Shortage of Scientists

The Department of the Army's Director of Civilian Personnel, Mr. Robert H. Willey, notes that the present national shortage of scientists and engineers is a major problem of the Army today.

Last year, despite stiff competition, the Army managed to increase the number of its civilian technical employees by 600. This successful effort barely kept pace with the ever-increasing needs. A recent survey discloses that the Army is losing scientists, although not at as rapid a rate as had been feared. A coordinated plan has been developed to remedy this situation.

Here are some of the major actions the Army has under way:

- Each Technical Service has been directed to designate a single installation to coordinate college recruitment in a large area.
- Recruiting teams from these installations will have current lists of all vacancies in its major command and will recruit for all of them.
- The Deputy Chief of Staff for Logistics has sponsored a "college recruiting symposium" including Army personnel officials, top scientists and engineers, and college representatives, and has started an Army school to train college recruiters.
- An Army-wide directive has been is-

sued ordering increased efforts to remove all non-scientific duties from professional jobs and urging that scientific and engineering skill utilization committees be set up at all installations employing key personnel.

¶ Revisions of the Classification Act have been recommended by the Army to permit pay practices similar to those of private industry and to allow such additional incentives as pay for travel to first duty stations.

Nike System May Be Delayed

During House Appropriations hearings, the Deputy Chief of Staff for Logistics, Lt. Gen. Carter B. Magruder, testified that a $1.6 billion cut in the Army's original $11.3 billion budget request for the Nike defense program would cause a serious reduction in the rate of production of the missile. The original sum included funds for Nikes for U. S. forces overseas, installations, and the supply to allies under the terms of the Mutual Security Program. The cut will cause a delay of three to four years in completion of the Nike defense plans and the Army will be able to equip only about 40 per cent of the units proposed for organization by 1 July 1960.

At Aberdeen Proving Ground, Md., Capt. Zeta B. Thomas, APG Dietician, and Capt. Joan A. Perry, APG Physical Therapist, cut the cake commemorating the tenth Anniversary of the Medical Service Corps

ICAF Correspondence Course

The Industrial College of the Armed Forces is offering a correspondence course to officers of the active Army and reserve components and to civilian executives in industry and government.

This extension course, "Emergency Management of the National Economy," is designed to reach the civilian and those members of the military services who cannot attend the resident course conducted by ICAF. The resident course is restricted to a limited number of senior officers on active duty nominated by their respective services, and civilian government officials.

Students who complete the course receive a certificate of completion awarded by the Industrial College of the Armed Forces.

General Officer Shifts

Gen. George H. Decker to USAFFE/Eighth U. S. Army . . . Lt. Gen. Francis W. Farrell to USAREUR . . . Lt. Gen. Paul D. Harkins, to Commander, Allied Land Forces, SE Europe . . . Lt. Gen. Charles E. Hart to USARADCOM . . . Lt. Gen. George W. Read, Jr. to Second U. S. Army . . . Lt. Gen. Laurin L. Williams to Sixth U. S. Army . . . Maj. Gen. William S. Biddle to III Corps . . . Maj. Gen. John J. Binns to Sixth U. S. Army . . . Maj. Gen. W. Preston Corderman to Fort Monmouth, N . J. . . . Maj. Gen. Raymond W. Curtis to USAFFE/Eighth U. S. Army . . . Maj. Gen. Robert G. Gard to USA Military District, Arkansas . . . Maj. Gen. Einar B. Gjelsteen to Sixth U. S. Army . . . Maj. Gen. Emil Lenzner to Deputy Chief Signal Officer . . . Maj. Gen. Andrew T. McNamara to TQMG . . . Maj. Gen. Guy S. Meloy, Jr. to Fourth U. S. Army . . . Maj. Gen. Elwyn D. Post to USA Military District, Georgia . . . Maj. Gen. C. Rodney Smith to ODCSLOG . . .

MAJ. GEN. WILLIAM S. LAWTON Comptroller of the Army

Maj. Gen. Russell L. Vittrup to USARPAC . . . Maj. Gen. Henry R. Westphalinger to USAREUR . . . Brig. Gen. Frank M. Albrecht to South Atlantic Division Engineer . . . Brig. Gen. Ralph J. Butchers to USA Audit Agency . . . Brig. Gen. Ernest F. Easterbrook to ODCSOPS . . . Brig. Gen. Robert J. Fleming to USAREUR . . . Brig. Gen. William R. Frederick to USAREUR . . . Brig. Gen. William K. Ghormley to Rock Island Arsenal . . . Brig. Gen. Wesley T. Guest to OCSigO . . . Brig. Gen. Robert Hackett to USARPAC . . . Brig. Gen. William D. Hamlin to USAREUR . . . Brig. Gen. Gerald F. Lillard to OCSA . . . Brig. Gen. Ralph T. Nelson to USA Electronics PG . . . Brig. Gen. Theodore S. Riggs to USA Military District, Indiana . . . Brig. Gen. Louis J. Rumaggi to North Central Division Engineer . . . Brig. Gen. Sam C. Russell to USA Air Defense Center . . . Brig. Gen. William M. Thames, Jr. to USA Combat Surveillance Agency.

Retirements

Lt. Gen. Stanley R. Mickelsen . . . Maj. Gen. Emmett J. Bean . . . Maj. Gen. Cornelius E. Ryan . . . Brig. Gen. Robert C. Aloe . . . Brig. Gen. Henry J. D. Meyer . . . Brig. Gen. Alden P. Taber . . . Brig. Gen. Theodore A. Weyher.

Brigadier General S. L. A. MARSHALL

Nothing New—Under the Sun

FOUR YEARS AGO I WAS ON Arsenal, Dale Outpost and Pork Chop Hill. My mission was to analyse the human current in one small fight. What had motivated success or caused local failure?

Laid bare before me was a detailed review of the meaning, method and manner of leadership under the most exasperating of field conditions. The men were green. The young leaders, almost unexceptionally brave men, hardly knew the character of their following. Many of the rifle files, having freshly arrived, were total strangers to each other. A most inviting laboratory for research into an area that has long fascinated me. Yet when the seven weeks of research were concluded, I had found nothing new under the sun.

More recently I was in the Middle East with the Israeli Army in Sinai studying the 100-hour War of last November. Never before in war had troops been pushed as hard and moved as recklessly to a dramatic and decisive goal. Again, my job was to get at the nature of the army by studying its motor and moral forces under the stress of battle.

And again, I found nothing new. Every rule of action, every precept and example set for and by leadership so that its following would be stimulated and the army would respond as if inspired must have been known to the Greeks and Romans.

At the high tide of danger leaders got out front. They stimulated audacity by being themselves audacious. In dilemma, they resolved decision by taking the line of greatest daring which they considered the line of main chance. Exercising tight control amid crisis, they still bubbled with good humor.

One other command attitude called for special mark. While these young commanders demanded utmost performance from their troops and pushed them many times to the fringe of exhaustion, they did not go beyond it. When an attack pended they would halt everything to order a rest or sleep for their troops if they felt their condition demanded it. For this alone the Sinai campaign warrants rapt attention on our part. Too often we tend to an opposite course, thereby wasting men and opportunity.

SINCE GETTING BACK I HAVE heard it many times said in explanation of the Israeli Army's dynamic unity: "They are highly motivated. They are pioneers. Their country is new. They have ardor. Besides, the land is in danger. Its enemies almost surround it."

No one in his right mind would deny that these are factors which simplify Israel's basic training situation and enable the government to make a stern requirement of the individual. But for one, I reject totally the idea that the extraordinary elan of that, or any other army, may come from self-identification of the individual with the goals of his nation in the hour when his life is in danger.

That is not the nature of man under fire. His thoughts are as local as is his view of the nearest ground cover. Unless he feels some solidarity with the people right around him and is carried forward by their momentum, thoughts about the ideals of his country will no more keep him from diving toward the closest protection than will reflections about his love for his wife.

When fire sweeps the field, be it in Sinai or Saipan, nothing keeps a man from running except a personal code of honor, of bound obligation to his friends, of fear of failure in their sight and of final disgrace. Of late the importance of high motivation and "dedication" has received more than its just due. Generate them if you can but don't overrate them as the begin-and-end-all of combat efficiency. Even a totally unselfish patriotism—if one may imagine such a thing—will not of itself make inspired leading or its prerequisite, that personal magnetism which produces group unity.

Major General Moshe Dayan, the Israeli Chief of Staff, said something on this subject. His words went about like this: "A leader should be moral. He shouldn't drink heavily, play around with women, be careless in his private

affairs, fail to know his men intimately as individuals, and so on. You may have a moral perfectionist who lives by the rules and is still not a leader. In fact, if he is otherwise perfect, combat leading is apt to be wholly beyond him." To that, amen!

But there is a magic touchstone. It lies in the word success. But let's avoid confusing cause and effect. The platitude "nothing succeeds like success" never helped anyone pass inspection. But there is reason to state again and again its almost disregarded corollary that within military organization faith in ultimate success is the broad highway to success itself.

FOUR TIMES IN MY MILITARY service I have had the experience of taking over a demoralized, run-down unit, with the charge that I should get it up and going again. One learns a few things by repetition. Were that to happen a fifth time, I would want nothing better than that at the earliest moment every man in the company would get the idea, right or wrong: "This man is born under a lucky star. He may be cantankerous, idiosyncratic, demanding. His sense of right and wrong wobbles a bit. But if we go with him, this outfit will come out of the woods and I personally will have a firmer hold on the future."

Change occurs when such words get around. In the business of rebuilding, the surest treatment is to talk over and over the importance of group success as a foundation for the personal life while taking actions which indicate new direction. When the group gets the feeling of new motion it centrifugally influences anyone who tries to stand still. Once an organization gets the conviction it is moving to higher ground and some distinction will come of it, all marginal problems begin to contract. Discipline and standards of courtesy tighten of themselves because pride has been restored. Malingering in the form of too many men on sick call, awols and failure to maintain inspection standards is made minimal through a renewed confidence and an upgrading of interpersonal relations at the lower levels. Group momentum may even make good soldiers of potential bad actors.

I remember a dying boy at the Battle of Carentan. He had been an odd-ball in the paratroop company. In the crisis of action, he had to be used as a runner. Fatally hit on the mission, he died in the arms of his commander, Captain Cecil Simmons. His last words were: "Tell me now, Captain, that I wasn't a complete foul-up." So saying he expressed the natural longing in all of mankind.

That story provides its own reminder that leadership radiance is one thing in training and quite another in combat. Under garrison conditions, even the business of acting like a second father to his people doesn't have to come naturally to a man for him to win the respect of troops. If he is cold he has a handicap. But if he knows his trade and is obviously efficient and fair, though a hard taskmaster, they're on his team.

Come to a fight, that's not enough. Even if the men previously have believed absolutely that being under this leader is their best assurance of successful survival, should he then develop the dugout habit, and appear too concerned about his own safety, he will lose his hold on them not less absolutely. His lieutenant, who in training had been regarded as a mean SOB or a sniveler, but on the field behaves like a lion, can take moral leading of the company away from him and do it in one day.

I witnessed these battlefield transformations in France in 1918. In the wars since then, all I have observed of our forces and others confirms that first powerful impression. There is no substitute for courage, no other bonding influence toward unity of action. Even men of little nerve must regard with contempt the man who has assumed responsibility requiring that he set the brave example when in the decisive hour his flesh proves unequal to it.

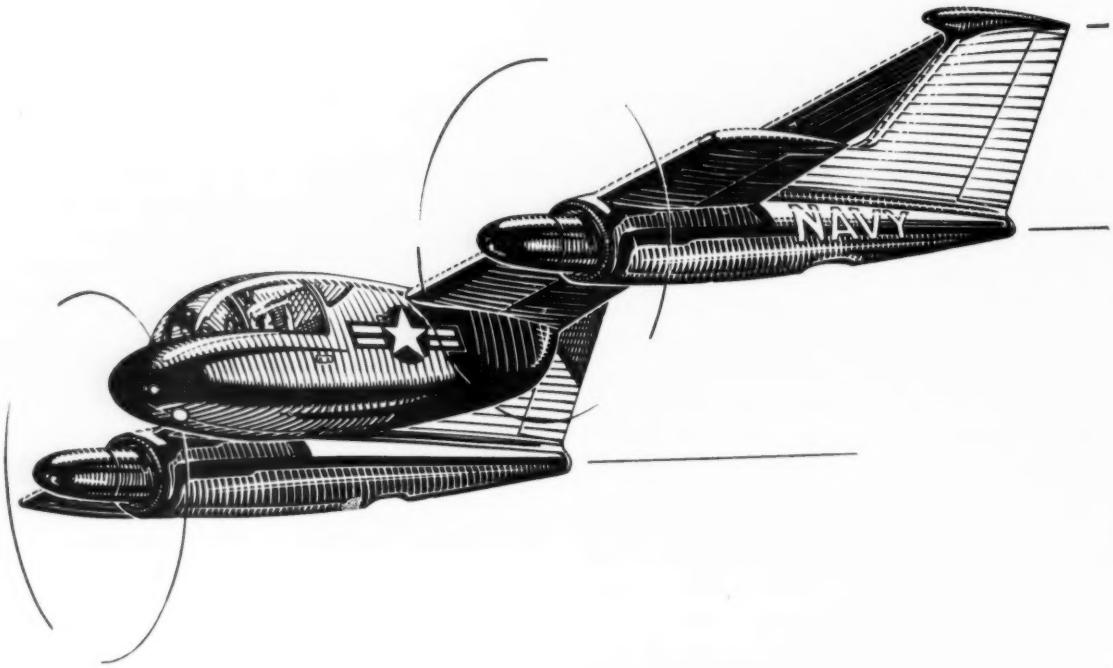
Troops will forgive almost any stupidity. They simply cannot excuse excessive timidity. That was the epitome of Captain Queeg's failure on the *Caine*. Screwball that he was, and an oppressor of men, his other vices would have been tolerable had he, under fire, maintained himself like a man.

WHETHER HE IS DRESSED IN green twill or a dinner jacket, fundamentally I see man as a creature under daily challenge to prove to himself, by one means or another, the quality and character of his own manhood. And I am quite sure that, in his working relations with all other men in a common activity, the hallmarks of a freely acknowledged superiority are the tested and proved masculine elements in his character.

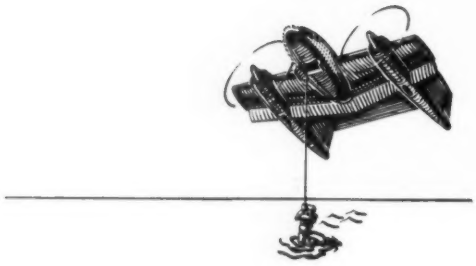
That implies the readiness to accept risk instead of putting ever uppermost the quest for security—and of this we hear all too little in our time. It implies also a capacity for completing assigned or chosen work, lacking which no man may truly lead. Around these things only may be developed the aura, the manner of the combat leader. Without them there is no hope, and the article must be exposed as counterfeit in time.

All of this is to be found in Ecclesiastes, along with the phrase: "There is no new thing under the sun."

New STOL Aircraft will dart to 300 mph...



...slow to a hover



Kaman Aircraft, under contract to the U.S. Navy, is developing a new and different STOL aircraft concept. Drawing on its experience as a pioneer in the development of turborotor helicopters, Kaman has designed an aircraft which will incorporate the best features of helicopter performance from 0 to 50 mph, and perform as a fixed wing aircraft at speeds up to 300 mph.

This STOL aircraft is another contribution Kaman is proudly making to our National Defense effort.

KAMAN

THE KAMAN AIRCRAFT CORPORATION
Bloomfield, Connecticut

EDITORIALS

Korea—Today and Yesterday

Outpost duty along the northern boundary of the United States Forces in Korea is for keeps. . . . There are people north of the Parallel who have tested their weapons and their marksmanship by shooting at our patrols. . . . There is nothing academic about outpost duty in Korea. . . .

These words were written by the late Brigadier General Branner P. Purdue in the *Infantry Journal* of July 1948. Had he lived, General Purdue wouldn't have been surprised by the Korean war, but we doubt if he would have foreseen one result: that the words he had written in 1948 would describe the situation nine years later.

Nor would he have been happy about reports that the weapons and equipment of our forces in Korea today are old, outmoded and inferior to the new weapons the Communists have brought into Korea (in defiance of the truce agreement prohibiting this).

In a press release issued on 28 May, the Association of the U. S. Army quoted Mr. Willard G. Rockwell, Chairman of its Council of Trustees, as saying:

"The comment of some American officers in Korea that they might 'be expendable' if conflict again breaks out is a terrible commentary on how far we have retreated toward the situation that existed in the Far East in the years preceding the outbreak of the Korean conflict in June 1950. The Association of the U. S. Army does not believe the people of the United States would knowingly have such a situation repeated. And yet there is grave danger that it will be."

This is the heart of the matter. If our forces are to remain in Korea (as they must) they deserve the best weapons and transport and other gear that this nation can produce. Is it conceivable that our memories are so short that we have already forgotten the "Battling Bastards of Bataan"? the understrength and ill-armed companies and batteries we threw into Korea seven years ago? the firm resolves on both occasions that it would never happen again?

Apparently so, for by all accounts our forces in Korea today could become another "forlorn hope"—testimony to the shortsightedness of Americans when the guns aren't growling in anger.

Military Considerations Paramount

There are two subjects that inevitably give rise to talk of the need for a greater degree of unification of the armed services. One is interservice controversy and the other is economy. In recent weeks the latter has overshadowed the former. It is asserted that a greater degree of centralized authority would reduce the amount of alleged waste and duplication and thus bring about substantial reductions in the defense budget. It is also asserted that stronger authority would abolish controversy.

No one really knows whether these assertions are true. In any event, the kind and degree of unification we should have should be decided on grounds other than economy and control of controversy. The only really valid consideration is military—whether the organization adopted will produce the kind and amount of military strength the United States needs.

This is why most military men have been reluctant about more unification. They are fearful of the results of power in the hands of persons who understand administrative and fiscal problems better than they do professionally military techniques and the intangible values of the military life. Like Mr. Wilson, they fear the creation of "opportunities for stupidity."

In the course of the great transition of the military service into the nuclear-missile age, adjustments within the organizational structure are inevitable. But they must be approached cautiously and considered soberly. Dr. Henry Kissinger, in an article reproduced in the May issue of this magazine, suggested one avenue of approach. There are many others; ideas about unification are almost a parlor game and almost any friend can quickly draw a chart that will solve the problem for all time.

The Association of the U. S. Army recognizes that change and progress are necessary and desirable, and it does not bar the possibility of constructive readjustments. On one point, however, AUSA has strong and unequivocal views. Further unification must be predicated chiefly upon military considerations. Unification undertaken primarily for administrative, fiscal, or political reasons would be the gravest kind of error. It cannot be decided by emotional debate, whether in the halls of Congress, in the press, or elsewhere. Competent men with authority bestowed by the highest levels should give it a thorough study. And these men should call on the services to speak freely without restraint in order that military considerations would be paramount. Any plan that is adopted should guarantee that the military virtues of duty, honor, courage, sacrifice, devotion are not smothered in a billowing bureaucracy. Finally, let no steps be taken which would destroy those great traditions of the U. S. Army and the other services.

All-times Fighting Force

Stormy weather on Armed Forces Day washed out some of the Air Force and Navy demonstrations at Andrews Air Force Base, outside of Washington. But neither the crowd (large and enthusiastic) nor the Army (on its toes) was affected by the inclemency of the weather.

Noting this, Major General John G. Van Houten, Commander of the Military District of Washington, came up with this good slogan which he passed on to us. We like it and you will too. It is:

THE ARMY—THE ANY-WEATHER—ANY-TIME—ANYWHERE FIGHTING FORCE

THE ARMY'S MONTH

The Army is shifting to the metric system for the measurement of distance and height in artillery and small-arms fire. A new regulation promulgating the change says that it will facilitate standardization within NATO and permit better and more widespread use of allied and captured enemy matériel. The changeover is to be completed by 1 Jan. 1966.

The Army is dropping the name Career Management Division from its organizational charts, beginning 1 July, and will call it the Officer Assignment Section, TAGO. Functions remain unchanged. The change reflects the deemphasis on managing careers, and emphasizes that the Army's needs come first, the individual's second.

The Army's four-month summer training program is taxing its training facilities. In addition to approximately 352,000 Regular Army trainees, a Reserve complement of some 650,000 will undergo training. The latter group is made up of 380,000 National Guardsmen, 245,000 Reservists, and 15,000 ROTC college juniors. This peak load is caused by the recent rapid growth, especially in the enlisted strength, of the Army's Reserve organization.

Early in June Army pilots began trans-Atlantic hops to Europe to deliver command aircraft. The first flight was of two twin-engine L-23Ds to Germany. These flights will test the feasibility of long-range delivery of Army aircraft by air, and are being tried in the interest of economy in both time and money.

Four-day crossings are scheduled with stops at Goose Bay, Labrador; Narsarssuak, Greenland; Keflavik, Iceland; Prestwick, Scotland; and Heidelberg, Germany.

The top man in this year's graduating class at the United States Military Academy, Cadet John H. Vickers of Fairfield, Conn., won twelve of the twenty-nine military and academic prizes awarded.

Lieutenant Vickers, who was commissioned in the Corps of Engineers, received: a life membership in the National Geographic Society from the American Legion for the highest rating in chemistry; the Francis Vinton Greene Memorial Pistol for being first in general order of merit for four years; a camera from the Veterans of Foreign Wars for the highest average in physics; a wrist watch from the Military Order of Foreign Wars for the highest average in Social Sciences; a set of books from the American Bar Association for the highest marks in law; a set of books in memory of Brig. Gen. William A. Mitchell for the highest average in military engineering and military history; a wrist watch from the Steuben Society for the highest rating in foreign languages; a rifle from the American Ordnance Association for the highest average in ordnance; a portable radio from the Armed Forces Communications and Electronics Association for highest marks in electrical engineering; a pair of binoculars from the Ladies Auxiliary of the V.F.W. for the highest average in the mechanics of solids; a portable typewriter from the Daughters of the American Revolution for the highest rating in the mechanics of fluids; and the Robert E. Lee Saber from the United Daughters of the Confederacy for the highest average in mathematics. He didn't get a slide rule.

In the four years that the *Reader's Digest* has had its "Humor in Uniform" department, 170 items have been published with 84 of them coming from the Army, 49 from the Navy, 24 from the Air Force, 10 from the Marine Corps and three from miscellaneous sources. At $100 an anecdote this means that soldiers and Wacs have collected a total of $8,400 from RD. The magazine is still in the market for them. Uniformed contributors should send theirs through the Chief, Magazine and Book Branch, Office Chief of Information, D/A, Washington 25, D. C.

The financially hard-pressed Olympic Games Committee can find no fault with Army participation—financially and athletically. A report by the Adjutant General on Army participation in the last Olympic Games reveals that as of February 1957 members of the Army and Army organizations had contributed $96,952.76—more than enough to defray the expenses of every soldier involved in the 1956 Olympic Games.

Commanders have been given a larger role in the management of the Army-Air Force Exchange Service. New regulations make the chief of the Exchange Service a member of its board of directors, thereby giving the military greater participation in management of the service. Organization of the service will not be changed, and the functions of the service's five regional offices remain basically the same. They will continue to assist in technical aspects such as insurance, personnel, training, procurement and merchandising.

The National Broadcasting Company has donated to the Department of Defense more than 450 hours of new programming for use on the twenty-three Armed Forces television stations at U. S. outposts abroad. This is the first time a major television film syndicator has donated its product to the Armed Forces, and the programming, consisting of more than 6,000 prints, is the largest single bloc of programs ever made available by any network or other source for the entertainment of U. S. servicemen around the world.

What the Cordiner Report Proposes

COLONEL KENNETH G. WICKHAM

BEHIND the knowledge that large numbers of young officers have been leaving the services and that the reenlistment rates of competent noncommissioned officer leaders and skilled technicians are extremely low are some chilling figures: In the three years of 1954-55-56 the services lost 84,000 lieutenants and 48,000 captains, majors and lieutenant colonels. Enlisted loss rates are comparable. The improvement required to meet optimum sustaining rates of the services reflects the acuteness of the enlisted loss rate. For example, in 1956 a reenlistment improvement of 59 per cent was required in ground combat leaders, 77 per cent in repairmen, and 146 per cent in electronics in order to attain required sustaining rates.

In hopes of ending this serious loss of skills, in May 1956 Secretary of Defense Charles E. Wilson assigned to a special committee of distinguished civilians and military men the mission of "developing and recommending a dynamic program of legislative and administrative measures suitable to attract and retain the combat leadership, scientific, professional, technical and management skills required by our Armed Forces today and in the future." Chairman of this important committee was Mr. Ralph J. Cordiner, the President of General Electric Company.

The Cordiner Committee Report submitted a year later contains the military personnel management guidelines for the future. Every person in uniform will feel its impact. This article endeavors to explain the background of the study, its specific proposals for pay changes, as well as other major recommendations, and finally, what adoption of its proposed program will mean to the Nation, the Services, and to those in uniform.

Like their Chairman, the members of the Cordiner Committee are experienced, successful and highly qualified men, civilian and military. Army mem-

bers of the committee are the Assistant Secretary of the Army, Mr. Hugh M. Milton II (who is a Major General, USAR) and Major General C. Rodney Smith, whose present assignment is Deputy Chief of Engineers for Military Operations.

The committee visited service activities at home and overseas. They talked to thousands of men in uniform of all grades and at their work stations. They had access to departmental studies, records and statistics and the uninhibited cooperation of service staffs at all levels. They employed civilian consultants to prepare comparative analyses of military and civilian work conditions and compensation.

A true perspective of the meaning of the services' loss of trained people can be attained only by viewing it against the background of the technological revolution going on in this country and in the world at large. The rate of technological change has achieved almost explosive momentum. It is making sweeping changes not only in our daily lives, but also in the strategy, tactics and tools of defense. The full impact of this change, its rate of acceleration, its meaning for the immediate future and the pressing demand it creates for men of outstanding leadership and technical skill, is not easily grasped.

One measure of the impact is seen in the story one witness told the committee. This was of the inexperienced mechanic who removed a radar component with a pair of pliers rather than the proper wrench and thus kept a station guarding an important United States city "off the air" for fifteen hours. In another instance a radar station was off the air for twenty-one days due to malfunction which would not have occurred if experienced mechanics had been available. Employment of our new weapons requires highly skilled and experienced *leaders* and technicians in ever increasing numbers. The services now have acute shortages of both.

The Origins of the Problem

The work force to man our new arsenal of weapons on hand and under development is generated and motivated by concepts which served acceptably in the past but are failing to meet the demands of the present and appear even more inadequate for the future. This doesn't mean that all our personnel policies are bad; indeed, most are fundamentally sound. Their basic difficulty is that they lack leverage for the work they must do. This is the natural outgrowth of the fact that today too great a gap exists between what the government pays the prospective career serviceman of top quality and what our civilian economy will offer the same man.

Every serviceman knows that he is not, and never would be, in the service for money alone. There are other rich rewards in the challenges, the variety, the deep friendships, the rewarding sense of service and of patriotism fulfilled. But the pay in its amount and in the system of its application must not, in and of itself, deter the more capable young man from following a career of military service. A careful evaluation of personnel difficulties convinced the Cordiner Committee that our present pay system, designed to meet problems of a century ago, and our present pay rates, a patchwork of too little, too late changes, are now an overriding deterrent to the type of man the services must persuade to follow a military career.

The Committee said it in these words: "Present compensation practices of the armed forces are so clearly out of step with the times, so clearly inadequate to the needs of a technically advanced form of national defense, and so clearly contrary to all that has been learned about human motivations that they can unmistakably be identified as a major impediment to national security. Modernization of compensation practices is, therefore, the basic problem to be attacked immediately."

The personnel gyrations evolving from this basic pay difficulty are well known. Forty-five percent of the nearly three million people in the services have less than two years of experience today. The military services devote an excessive amount of energy, money and time in giving apprentice training to a stream of persons whose names pass across their rosters and on to civil jobs. Many of these people are of high quality and are spiritually motivated toward a military career. They do not remain in service, however, because the system and level of military compensation do not provide acceptable rewards to challenge their full capabilities on a career basis. The result is that the legal authority of compulsory service insures that the armed forces have the numbers of people required, but an inadequate percentage of the number on duty at any moment have the level of experience and training necessary to man our equipment efficiently and economically. Too many experienced soldiers must be used to train the continuing stream of apprentices. Finally, considering the lead time required to impart combat leadership and technical proficiency, too much unrecoverable time is spent training for future leadership persons of inferior quality.

The Committee put it this way: "As the tools of modern defense and the technology of their use become more intricately complex, men—the human element in defense—become more, not less important. Greater numbers of men do not satisfy this need. Only marked increases in the level of competence and experience in the men of the force can provide for the effective, economical operation required by the changing times and national need. . . . The armed forces are not able, at the present time and under the present circumstances, to attract and retain the kinds of peo-

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RALPH J. CORDINER
Chairman

HUGH M. MILTON, II
Army Member

Major General C. RODNEY SMITH
Army Member

ple needed for the period of time necessary for them to make an effective contribution to the operation of the force. The problem is one of increased personnel retention on a selective basis rather than increased procurement."

In order to retain the type of people required for a productive period of service, a democratic nation must pay the citizen voluntarily serving in its armed forces approximately what his services are worth. And every serviceman must be willing to stand on his professional merit.

The Failure of the Present Pay System

What's wrong with our pay system? Devised to meet the needs of another age, it gives overriding significance to "longevity" of service in contrast to level of responsibility. Thus, in all services in 1956, 5,466 lieutenant colonels received more pay than 1,674 colonels; 4,493 majors received more than 13,441 lieutenant colonels; 6,421 captains received more than 2,113 majors; 9,469 first lieutenants received more than 7,331 captains. In the enlisted ranks 26,000 E-4's received more than 122,000 E-5's; 49,000 E-5's received more than 41,000 E-6's; 209,000 E-6's received more than 102,000 E-7's. As another example, promotion from E-5 to E-6 can net a maximum increase of $32.20, whereas $112.79 in increases can accrue in E-5 through longevity alone.

If promotion goes to the better qualified, more productive people, why shouldn't pay go with it? Shouldn't it be worth distinctly more to qualify for and assume higher responsibilities than to remain at the same level? The only present way to pay more to an outstanding man is to promote him in military rank and even then the longevity pay system may defeat the objective. An outstanding E-5 (sergeant) with over 4 years of service receives an increase of $11.70 monthly upon promotion to E-6 (sergeant, 1st class). However, another E-5 without change in responsibilities and with over 18 years of service receives a $15.70 monthly increase by simply "staying in" until he has 22 years of service. The inflexible practice of promotion in military rank as the only means of providing pay for productivity has a serious practical effect of diluting the leadership-command element of the Services. These are examples of the defect areas of the compensation system which make it out of step with the times and in conflict with what has been learned about motivation.

Levels of basic pay are another, but related matter. Consider the pay and allowances of a major with 14 years of service and two dependents. In 1908 his "take home" pay was $373, which was equivalent in purchasing power in 1955 dollars to $1,066. In 1955 he received $630—worth $630. In February 1957 he received $622—worth only $599 of the 1955 variety. In 1957, then, the man who received $1,066 in 1908 is receiving only $599. Comparable figures can be developed for all pay grades. This erosion of relative living standards has impressive impact upon the high quality individuals whom the nation now requires for officer or noncommissioned leadership. Pay incentives for comparable civilian leadership and skill have not suffered this decline.

Until these deficiencies of military pay are alleviated, voluntary military service will not attract a sufficient number of high quality young men to seek a military career nor provide the Services the opportunity to select the quality needed, make the training investment required to produce true professional competence and receive a proper return on the investment. Until more outstanding people voluntarily remain in service, even soundest personnel procedures will not be fully effective. This is why Mr. Cordiner and his associates indicted the pay system as the dead nerve of military personnel operations. Retention and quality selectivity are the primary problems.

Concepts Behind the Cordiner Pay Proposals

What are the Cordiner pay proposals? Tables shown here contain the recommended rates of basic pay and in-grade pay steps. Hazardous duty pay remains unchanged except where it is now based upon longevity. In the latter case a conversion, without essential rate change, is made to the in-grade step system. Special pay for medical and dental officers is adjusted in amount and application to retain its incentive feature but with reduced differential from the proposed pay of other officers.

Pay is a personnel management device. The system of pay recommended by the Cordiner Committee was designed as a management device, not a pay raise in the normal sense. Indeed, only 39 percent of the people presently in the services would receive a raise at this time if the proposed pay system and pay rates are adopted. The system incorporates the following management concepts:

- Make no change in the entry pay of initial service in either E-1 or O-1. This acknowledges the influence of Selective Service legislation upon this level of service.
- Eliminate longevity for total service, replacing it with an in-grade step system of pay increases which reward increased productivity resulting from increased experience *in that grade level of responsibility*. The number of increases is limited in each pay grade by the time the individual should logically remain in that grade. Failure to advance in level of responsibility results in an appropriate ceiling on pay.
- Make the *beginning* pay for each grade or level of responsibility *higher* than that obtainable by *any individual serving in a lower pay grade*. The raise in pay accruing for a promotion in level of responsibility and grade is made sufficiently attractive to encourage people to seek greater responsibility and productivity.
- Base the number of in-grade step increases on the normal time in grade visualized in the Officer Personnel Act and the normal rate of advancement of qualified personnel in the warrant and enlisted career fields. Entry pay for each grade level also recognizes the approximate age of individuals in this promotion pattern.
- Make the levels of top pay in the senior officer and enlisted grades more representative of the levels of responsibility involved and a more attractive ultimate goal for the capable man who is evaluating a military career.
- Recognize that commissioned, warrant and enlisted status are each a career in themselves, each with its own primary emphasis or special talents. The progression from enlisted and warrant status would continue, but selection

PROPOSED MONTHLY RATES OF BASIC PAY FOR ENLISTED GRADES

GRADE	BASIC ENTRY PAY	IN-GRADE PAY STEPS			
		OVER 2 YRS.	OVER 4 YRS.	OVER 6 YRS.	OVER 8 YRS.
E-9	$400.00	$410.00	$420.00	$430.00	$440.00
E-8	350.00	360.00	370.00	380.00	
E-7	300.00	310.00	320.00	330.00	
E-6	250.00	260.00	270.00	280.00	
E-5	210.00	220.00	230.00		
E-4	140.40	180.00			
E-3	99.37	117.00			
E-2	85.80				
E-1	78.00				

PROPOSED MONTHLY RATES OF BASIC PAY FOR OFFICERS AND WARRANT OFFICERS

	GRADE ENTRY RATE			IN-GRADE PAY STEPS (Including Active Duty Supplement)					
GRADE	BASIC PAY RATE	ACTIVE DUTY PAY SUPPLEMENTAL	TOTAL ENTRY RATE	STEP I OVER 1 YEAR	STEP II OVER 2 YEARS	STEP III OVER 3 YEARS	STEP IV OVER 4 YEARS	STEP V OVER 5 YEARS	STEP VI OVER 6 YEARS
0-10 Gen	$1,700	$300	$2,000						
0- 9 L Gen	1,500	250	1,750						
0- 8 M Gen	1,300	200	1,500						
0- 7 B Gen	1,100	150	1,250						
0- 6 Col	850	100	950		1,005		1,065		
0- 5 Lt Col	660	50	710		750		795		840
0- 4 Maj	530		530		560		595		630
0- 3 Capt	420		420	432	445	458	471	485	500
0- 2 1st Lt	335		335	345	355	365	375		
0- 1 2nd Lt	222		222	244	268				
W-4	530		530		560		595		
W-3	462		462		484		506		
W-2	396		396		418		440		
W-1	350		350		373				

Note: "ACTIVE DUTY PAY SUPPLEMENT" applicable only to officers on extended active duty exceeding 30 days, and is not included in computation of retirement pay.

would be made at an age or to a grade where the selected individual will serve with his contemporaries in age and receive pay based solely upon his *level of responsibility in his new career.*

- Recognition that the primary skill of commissioned officers is leadership in its broad military sense and that this skill requires proficiency in a variety of techniques and specialties as indicated by the scope of duty assignments of officers as they advance. Consequently, differentials in officer pay based upon technical skill qualifications are not conducive to developing the type of officer needed and thus are not in the best interest of the services.
- In contrast, acknowledge that enlisted career patterns present situations in which not only combat leadership but a technical skill may be the primary qualification. In this connection it should be emphasized that "technical skill" does not mean a new and strange military skill. There are many essential military skills that have long been with us and are still required. Enlisted pay should recognize these differences without mandatorily requiring concurrent rank advances. This can be accomplished by means of "proficiency pay" which is defined as one or two pay grade advances without accompanying military grade change. Proficiency pay is recommended for a small percentage of enlisted persons in pay grades E-4 and above as a device to retain skilled leaders and technical specialists. It would encourage qualified persons voluntarily to seek training and assignment away from overstrength activities.
- Addition of two new enlisted grades, E-8 and E-9, required to provide an adequate pricing scale for the range of skills and leadership included in the enlisted career pattern of a technically advanced defense force. With the grades E-1 and E-2 currently denoting apprentices, the remaining five grades unduly constrict job evaluation; the additional two will free it.
- Recognition that the officer corps of the Services now consists of 75 per cent Reserve officers and for the indefinite future such officers will comprise 50 per cent or more of the total officers on duty. In the interests of increasing Reserve officer retention beyond obligated service we need to provide increased personal security for the Reserve officer and simultaneously afford the services some selection of those who are retained for periods of duty short of retirement. Term Retention Contracts with bonuses up to a maximum of two years' base pay at time of final separation from duty are recommended for this purpose.

The Selection of the Most Capable

These management principles lay the foundation for a forthright approach to compensation for competent personnel who are willing to compete with their associates in a democratic fashion and be judged on their own merit. The levels of pay associated with each grade, while not fully competitive with going rates of the civilian economy, will not deter the high quality individual who is motivated to-

ward a military career from devoting his talent to the defense of his country. The system is amenable to logical and ready adjustment of pay levels when future economic changes make modification necessary. The Committee believes this system will attract and retain the kinds of people the services require for the periods of time necessary for them to make a significant contribution to defense effectiveness. Improved retention also will provide the leverage which permits effective employment of other personnel management measures.

To the Cordiner Committee, revision of the military pay system is not an end in itself but only a necessary step in creating a climate wherein increasing numbers of capable personnel will seek careers in military service because they truly want such careers. Each step in this direction affords the services a two-fold opportunity to (1) upgrade the level of competence and potential of those retained and maintain a closer balance of on-hand skills to required skills and (2) effect savings in manpower as turnover of personnel declines and enhance over-all efficiency as stability and competence increase. Both these processes involve the operation of personnel management techniques for which authority and experience are available.

It should be anticipated that the criteria for selection of officers, both reserve and regular, for retention on active duty and for promotion will become more demanding. Professional competition should deny mediocrity a place in a select officer corps. Those who have evidenced declining productivity and have failed of selection could be replaced on the active list by more competent and energetic applicants. Educational and training assignments could be made with greater equity and anticipation of service return for training investment. Increased stability would permit greater flexibility in making duty assignments to the increased advantage of the individual and the service.

Greatly increased selectivity is anticipated in enlisted career management. The pressure to "get in" or "stay in" would permit a continuing upgrading. With greater flexibility in equating reward to responsibility, degree of skill and level of productivity, incentives will exist to enhance the performance of *all* personnel. Another result will be a tendency to balance on-hand skills with requirements as people seek the fields of greatest opportunities. Today reenlistment rates in some MOS's exceed requirements. Few incentives exist to urge people to qualify in shortage areas. The rewards made available in the Cordiner pay system offer strong incentives to correct these situations. As they are corrected, more stringent controls of reenlistment will become necessary.

The Cordiner Report recommends:

An improved system of individual evaluation as a basis for merit advancement and qualitative retention of enlisted personnel.

Establishment of controls at initial and each successive career reenlistment point to restrict reenlistment of (1) those having lower mental, physical, proficiency and conduct standards; (2) those for whom no skill requirement exists or who do not possess the will and capacity to retrain into a required skill; (3) those excess to service needs by rank and skill; and (4) those with over twenty years of service, to insure maintenance of the vitality of the enlisted corps and retention for 30-year careers of only those individuals of outstanding qualifications for whom a need exists.

The Committee does not believe that its recommendations concerning compensation, which set the stage for other actions, would solve all service personnel problems. But these other problems will be easier to solve under "a compensation system that will attract intelligent people possessing a strong sense of responsibility to their country and to their families, and sufficient pay to enable them to discharge their responsibilities to both simultaneously."

The Economies of the Program

The services analyzed the impact of the Cordiner recommendations based upon present manning levels and the assumptions that the Cordiner program would be enacted into law immediately and would be implemented on 1 January 1958; further, that improved retention would be experienced immediately and would improve at a constant rate to reach optimum desired levels by 1 July 1961. These assumptions of retention rates are admittedly based upon judgment, but are considered reasonable of attainment in most part. Under these conditions, savings of manpower in all services would extend from 16,000 in FY 58 to 73,400 in FY 62; in the Army the figures are 9,600 to 15,900 respectively. The cost for personnel under the compensation proposals would be increased $249.3 million in FY 58; $315.9 million in FY 59 and would *decrease* from present levels by $132.3 million in FY 60, with continuing savings thereafter. Most important of all, however, is the estimated over-all increase in service-wide efficiency ranging from 8.8 percent to 16 percent. Expressed in dollars, this increased efficiency has a value extending from an *annual rate* of $312.9 millions in FY 58 to $5,081.6 millions in FY 62.

Mr. Cordiner expressed the personal opinion that these estimates of gains would, in practice, be found to be conservative in amount and in the timing of their realization. He emphasized, however, that they were obtainable only if the full program of the Committee were vigorously implemented. In a period of continuing increases in defense costs these projections of realizable economies have significance for the entire nation and every taxpayer. They are a challenging goal for military leadership at every echelon.

The future of the Cordiner Committee recommendations rests in the hands of the Administration, the Congress, Defense officials, the public and the services. Whether fully enacted into law at an early date or not, some effects of these recommendations will soon begin to be felt by every individual in the service. The Secretary of Defense has identified the principles enunciated with respect to compensation and manpower management as those which should form the foundation of an integrated program for the effective and economical defense posture of the Nation. Many of these principles do not require legislative authority for initiation; implementing action is already in progress on some of them. The management concepts in this program are far-reaching and present a personal challenge to each individual in the services to perform at the top of his capacity. The Cordiner program warrants the careful study of every serviceman and citizen who seeks a more efficient, professional career environment, enhanced military preparedness and a defense force of greater capacity without increased cost.

NECESSARY IMPEDIMENTA

GENERAL MAXWELL D. TAYLOR

LET me indulge in a weakness common to all Old Grads—a few words of advice to the New Grad. For weeks, and perhaps months, you have been busily and I am sure happily assembling the equipment which you will take into service life—clothes, luggage, cars, perhaps brides. Let me ask you to take another look before it is too late and verify that in your kit you have a few homely items which this Old Grad feels to be really worth taking with you.

First, if you were reporting to a station which I commanded, it would be well to arrive equipped, among other things, with an accurate wrist watch, a pocket note book, and a tennis racket.

The first would indicate a recognition that the Army expects you to be on time. Military operations take place in space and time and the officer must have a proper respect for both.

The note book would show that you intend to let slip no useful thought or lawful order into the limbo of forgotten things. I hope your life in the Corps of Cadets has impressed you with the terrible nakedness of the soldier who stands before his superior and is forced to say "I forgot."

Finally, the tennis racket, for which there are acceptable substitutes such as golf clubs, squash rackets, and handball gloves, would be an indication that you intend to retain that physical fitness which West Point has given you and which is the indispensable attribute of the fighting man.

IN your freight, I hope you will include an easy chair and an appropriate reading lamp. As an officer in this modern Army, your days of study are not over—you will always have homework to do. The subjects of study and the hours you devote will largely be of your own determination. The content of this self-imposed curriculum is not so important provided it assures that your mind never ceases to develop. Your academic standing on graduation today is important as a measure of achievement in a difficult course of study covering the past four years. It is by no means a final determination of your worth to the service, or of your eventual success. Too many "goats" have risen to the heights of distinction to suggest that today's order of merit is final. But the goats of my acquaintance who have leapfrogged their classmates are men who continued their intellectual growth after graduation. Like physical fitness, you can never afford to put aside the habits of mental fitness which you have learned here as cadets.

From the Graduation Address of the Chief of Staff at the United States Military Academy, 4 June 1957

THE LOADED HILL

Sometimes you can predict the outcome of an attack, at other times the results are most unexpected

LIEUTENANT COLONEL ROBERT A. SCRUTON

SOMETIMES I think the German Army owes me an explanation. Most particularly, I would like to question the commanding officer, 2d Company, 18th Panzer Grenadier Regiment. I would like to know why he . . . but I am getting ahead of my story.

Most combat stories have a hill, and in this respect mine is no different. This steep hill commanded a road junction. I have forgotten the name of the little river at its foot, but I remember planning to cross it, and I remember the vulnerable feeling I had while crossing. You *had* to cross the river to attack the hill. On the hill, dug in, was the 2d Company, 18th Panzers—a tough outfit.

I knew they were tough because for more than a month we had been fighting the likes of the 18th Panzers. They gave ground slowly, and the closer we pushed them toward the Fatherland the tougher they got. They weren't the fanatics you read about; they didn't fight from untenable positions. They fought from ground where they could kill you efficiently. This hill could help them do that.

In our battalion there had been a lot of talk about the hill. If you projected the battalion's boundaries forward the hill lay squarely within them; there was speculation about who was going to take it out. No one was very keen for the job, and the battalion commander thought it might be by-passed and isolated. It was one of those natural fortresses you encountered as you approached the outer defenses of the Siegfried Line.

Assignment: take the hill

Late in February 1945 my company was withdrawn from contact for a few days of rest in Saargemünd, site of regimental CP and division forward. But there was to be little rest; on the morning of the second day I was called to regiment and given the mission of taking the hill.

"For the next couple of days," the Colonel said, "turn your company over to the exec. Take your platoon leaders and study the terrain, the approaches. Then come back with your plan. Your company will be detached from battalion for this operation."

Why couldn't the hill be by-passed? It stuck way out from the Siegfried Line. Couldn't it be isolated?

That, the Colonel said, was a good question. A lot of thought had been given to it. But all along Seventh Army's front similar defensive positions were sticking out from the Siegfried. It was true that some of them could be isolated, but not all. No, this particular hill must be in our hands when Seventh Army launched its general assault on the Siegfried Line.

"We have to lead from strength," the Colonel said.

After we took the hill, wouldn't my company be sticking way out from our own lines like a sore thumb?

Yes, said the Colonel, it would. But that wouldn't be as bad as it seemed. After the hill was taken we would revert to battalion control. We would have the support of the heavy-weapons company and an artillery battalion. If necessary, we could call on the 155s from division.

"I suggest that you tell your men about this support. They're not going to be as lonely as they think. It helps to know that you never are."

The hill at a distance

To study the objective and its approaches we had to visit the adjacent regiment, which occupied high ground some 2,100 yards southeast of the hill. From these heights, with high-powered

Lieutenant Colonel Robert A. Scruton retired in 1955 after having spent twenty-six years in the infantry. He lives in New Orleans, where he does some writing and plays much tennis. This is his sixth contribution to this magazine.

glasses, you could get a very good look at the hill. You could see the little river and the blown bridge across it, and you could see the main road that started in Saargemünd and ran through flat, wooded country to the road junction and beyond. Where this road approached the bridge was a pattern of dark specks—antitank mines. You couldn't see the antipersonnel mines in the woods on either side of the road. We found out about them later.

Then there was the hill itself. It wasn't a big hill—those who fought in Korea might belittle it—but it was steep and rocky, and jutted up over the road junction and the little river like a cliff. We could see that its gentlest slope was next to the Saargemünd road, just across the blown bridge, and that the Germans had compensated for this likely avenue of attack. Faint discolorations on the surface of the slope indicated gun positions and interlocking fields of fire that would sweep the road, the river, and the slope.

"It looks rough," was the unnecessary comment of the 1st Platoon leader. "It looks *damned* rough."

Planning the attack

I still have my notes. They tell me I made several plans of attack and discarded them as too complex and cumbersome. Finally, they tell me we arrived at two conclusions: we would have to hit the hill at night; and we would have to hit it fast—very fast. In this way, perhaps, we could get on top of the Germans before they got us.

Essentially this was the plan approved by regiment. I had expected criticism of its basic simplicity, but the Colonel nodded.

"Yes, that is what you must do. Approach the hill quietly and assault it quickly. You mustn't give them time to organize the fight."

At this meeting the attack date was set for 8 March, at about 2200 hours. There were two specific stipulations: the hill must be in our hands by daylight; and we must set out panels to indicate to air our exact positions because a strike was scheduled for dawn of 9 March on a factory complex northeast of the hill.

"Now what about artillery?" asked the Divarty representative. "We can blast that hill to hell for you."

I had thought about that. In one of my plans I visualized moving onto the hill under a blanket of shell. But I didn't think artillery would do much good. The hill was solid rock and the Germans were well dug in. Shelling would stun them a bit but would also serve notice that something was up. There are times when you must get along without artillery.

"We can blast it for you," the artillery representative said. "We can blast it off the map."

"If that's the case," the Colonel said, "there is no need for this attack."

S2 interrupted with some information. "We know the 18th Panzers are way below strength. The 2d Company is probably no more than a platoon. However, they have increased their ratio of automatic weapons." He consulted his notes. "I've got some fordability dope on the river. You can wade it southeast of the bridge—if it doesn't rain."

Coordination and reconnaissance

Although the attack plan was basically simple, the subordinate details seemed endless. For one thing, part of the approach march would be in the adjacent battalion's area and might even encroach on the neighboring regiment if it rained and we could not ford the river at the desired point. You can't successfully cut across other units' lines without thorough coordination, and even then there is the possibility that someone who didn't get the word will shoot you up. Since quiet was essential to our success, I gave a great deal of attention to this problem. I don't think anyone in the division was left in the dark.

Even more important than this coordination was our own reconnaissance. In the days that remained before 8 March we sent out five patrols with various missions. Against the advice of the exec, who said it wasn't my job, I accompanied a patrol to check the fording point. As we neared the river a *Schü* mine blew off the sergeant's foot and the noise attracted a spray of automatic fire from the hill. That, I remember, was on 6 March.

By 8 March, a cold, clear day, I knew exactly what we were going to do, and so did the company. We would start off on the main road from Saargemünd and stay on it until we hit the antitank mines. There we would leave the road and cut diagonally through the woods to a slight bend in the river. From the bend we would bear left to the fording point near the blown bridge. It was a circuitous route that required certain azimuth readings, but it avoided most of the mines and gave us a good chance of getting within striking distance unheard.

When the company assembled that evening I had one final speech.

"Now look. There is not going to be any signal for the assault—no flare, no shout, no nothing. We're going to hit that hill at exactly 2200. Your watch is the signal. I'll lead the approach march, and slow or speed it as seems necessary. We'll reach that ford at 2150—no later, no sooner. There'll be a few minutes to catch your breath. Then we hit the hill on the run. If we're fired on before 2200, that's the signal for the attack. We still hit the hill on the run, 1st Platoon leading."

The approach march

At the antitank mines I called a break before leaving the road. You could see the mines very clearly. They are not particularly dangerous to personnel, so the Weapons Platoon was to continue on down the road, threading its way through the mines to a point some two hundred yards from the bridge. There it was simply to wait. I didn't think we would need the Weapons Platoon in the initial stages of the assault, but had plans for it when the hill was taken or if we got into an all-out fire fight.

It is not easy to move quietly through woods, and the fact that we did shows how carefully my platoon leaders and noncommissioned officers impressed on the men the need for surprise. At the head of the closed column I had to listen intently to know I was followed by three tense rifle platoons.

At the river bend we headed left along the bank. Fifteen minutes would bring us to the ford. I had been this way before, and the strain began to mount. At any moment someone might step on a mine or fall over a branch, alerting the Germans on the hill. I didn't like to think about that.

I had been giving a lot of thought to my own position in the assault. The more I thought about it the less it seemed one of those affairs where the company commander coordinates operations by radio and messenger from an advantageous but unexposed location. Essentially what we had was an old-fashioned charge up a hill, and I had the archaic notion that I probably ought to lead it. I didn't like to think about that either.

As the hill loomed up about five hundred yards ahead, the column behind me silently opened up. We had reached the ford. I looked at my watch: 2150—a neat approach.

Attack

I heard the exec's whisper in my ear: "Captain, what about bayonets?"

This was one detail I *had* forgotten. We should have fixed bayonets well out of earshot, and now it seemed that the sound of their fixing, the clink of metal on metal, would wake the dead. Actually it was well done, but I listened with jumping nerves. The Germans probably had a listening post nearby and even now were siting their guns along the river and the slope. I thought I heard a breechblock snap on the hill.

Now it was 2200. I remember crossing the river, the pounding and the splashing of feet, the racing across the road and scrambling and clawing up the slope. But most of all I recall the sudden realization that we weren't being shot at. We were more than halfway up the hill when I realized that. The 18th Panzers had simply abandoned the place.

This is why I would like to ask the commanding officer, 2d Company, some questions. I would like to know why he abandoned the hill. On further thought I can answer that myself: he was ordered to leave it.

But more important, I would like to know why he didn't pull the switch on us. You see, we occupied that hill for two days before we found the wire that led to the dynamite. Buried in the hill was enough to do what that artilleryman had said he could do, "blast that hill to hell."

To get fire where and when we need it, let's organize the Artillery around

THE ARTOMIC PLATOON

CAPTAIN JULIUS SPITZBERG

THE reorganization of our Pentomic divisions calls for new tactics, new training, and new equipment. Under the new concept artillery must have greater flexibility, more fire power and larger battery fronts; yet it must retain its control and massing ability if it is to continue its support role. We can adapt artillery to its future role simply by changing our concept of the *battery* as the basic unit and converting the *platoon* in its place.

Each 105mm and 155mm (six-gun) battery becomes *two* platoons of three guns each. Each 8-inch (four-gun) battery becomes *two* platoons of two guns each, with a few additions and changes in present TOEs. It is not a matter of changing a dollar into two half-dollars and gaining nothing. We double our flexibility by opening new means for assembling task force commands, assigning special destruction missions (against bridges, bunkers, and the like), and providing more adaptability to normal battery missions. If desired, one gun can be attached or "specialized" while the others remain under normal control.

Captain Julius Spitzberg, *Artillery,* served with the 80th Infantry Division in World War II and with the 3d Infantry Division in Korea. He is presently on duty with the 802d FA Battalion, in Germany.

PROPOSED 8-INCH SELF-PROPELLED HOWITZER BATTERY

Battery Headquarters (2-32)

	Vehicles
Battery commander	3 ¼-ton (BC, RO, agent)
Reconnaissance & Survey Officer (FO)	4 ¾-ton (2 wire, survey, Hq)
First Sergeant	3 2½-ton (mess, supply, motor)
Machine Gun Sergeant (armorer)	1 5-ton (ammunition)
Clerk (driver)	2 ¼-ton trailer (BC, RO)
Supply Sergeant (driver)	1 ¾-ton trailer (Hq)
Mess Sergeant	2 2½-ton trailers (mess, motor)
4 Cooks (1 driver)	1 water trailer (pulled by supply)
2 Radio-Telephone operators (drivers)	*Radios*
Motor Sergeant	1 VRQ2 (BC)
3 Mechanics (1 driver)	1 AN/VRC9 (RO)
Ammunition Sergeant	
Ammunition handler (driver)	*Armament*
Chief of detail	
4 Survey men (1 driver)	2 cal. .50 MG (motor, supply)
Agent (driver)	1 cal. .30 MG (Hq)
Communications Sergeant (radio & wire)	3 3.5-in. rocket launchers
8 Radio wiremen (2 drivers)	32 carbines (M1 & M2)

1st Platoon (1-30)

	Vehicles
Exec	2 M43 SP
Chief of firing battery	1 ¼-ton (exec)
2 Chiefs of section	1 ¾-ton (FDC)
20 Cannoneers (2 drivers)	1 5-ton (ammo)
Radio-telephone operator (driver)	1 ¾-ton trailer (FDC)
4 FDC men (1 driver)	
2 Ammunition handlers (1 driver)	*Radios*
	1 VRQ2 (FDC)
	1 AN/VRC9 (exec)
	Armament
	2 cal. .50 MG (ring mount each how)
	1 cal. .30 MG (FDC)
	2 3.5-in. rocket launchers
	30 carbines (M1 & M2)

2d Platoon

Same as 1st Platoon, except Assistant Executive

TOTALS

Personnel	*Vehicles*	
4 Officers	4 M43 how	2 2½-ton trailers
92 EM	3 5-ton	3 ¾-ton trailers
	3 2½-ton	2 ¼-ton trailers
	6 ¾-ton	1 water trailer
	5 ¼-ton	
Radios	*Armament*	
3 VRQ2	92 carbines	
3 AN/VRC9	6 cal. .50 MG	
	3 cal. .30 MG	
	7 3.5 RL	

A suggested TOE for an 8-inch how battery (*see chart at left*) divides the unit into two similar fighting platoons, with the other sections under battery headquarters as supporting forces.

The suggested TOE provides for a machine-gun sergeant (armorer) and six caliber .50 and three caliber .30 machine guns so that *each* platoon will have two .50 MGs and one .30 MG (plus two 3.5 rocket launchers) for its own perimeter and AA defense. The howitzer crews are of ten cannoneers each (one of whom is the driver), a chief of section *and* a chief of firing battery for *each* platoon (to act as assistant exec). All battery mechanics are to be trained in both wheeled and tracked vehicles. The exec's driver is also artillery mechanic. Under this setup *all* men can each be trained to handle several jobs.

TO illustrate the platoon system, let's watch it support an infantry commander in Korea, whose mission was "to send forces to determine enemy dispositions and to destroy the enemy opposing a friendly crossing at C." (This mission is presented in "Fight 'em by Company," by Lieutenant Colonel George H. Russell, in the October 1956 issue of *ARMY*.) The infantry CO requests and is given artillery support consisting of a platoon of 8-inch SP howitzers and a platoon of 105mm howitzers. The commander of the 8-inch how battery is designated artillery control officer (to act as BC of both platoons, liaison and S3).

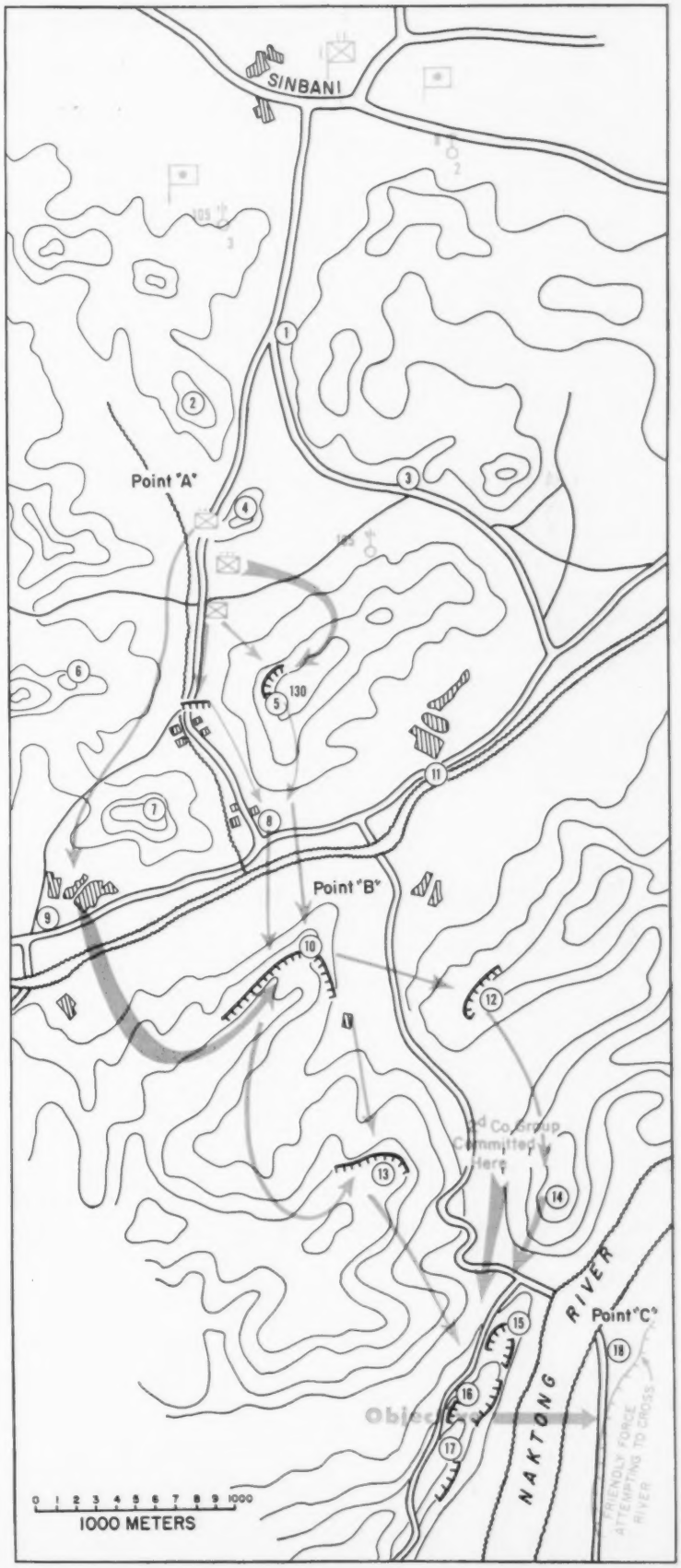
The BC receives the mission and the infantry CO's plan, then reconnoiters to locate initial positions for his platoons (*see map*). On order, the executives move their platoons into position and their FDCs are set up and are in immediate radio contact with the assigned forward observers. The exec radios are free to go on the command channel with the BC and the infantry CO; the BC has two radios for S3 control and command control. Survey and wire crews are dispatched by the battery commander to tie in the platoons and the infantry. The BC establishes his command post at the 8-inch how position and very close to the infantry CP for easy liaison.

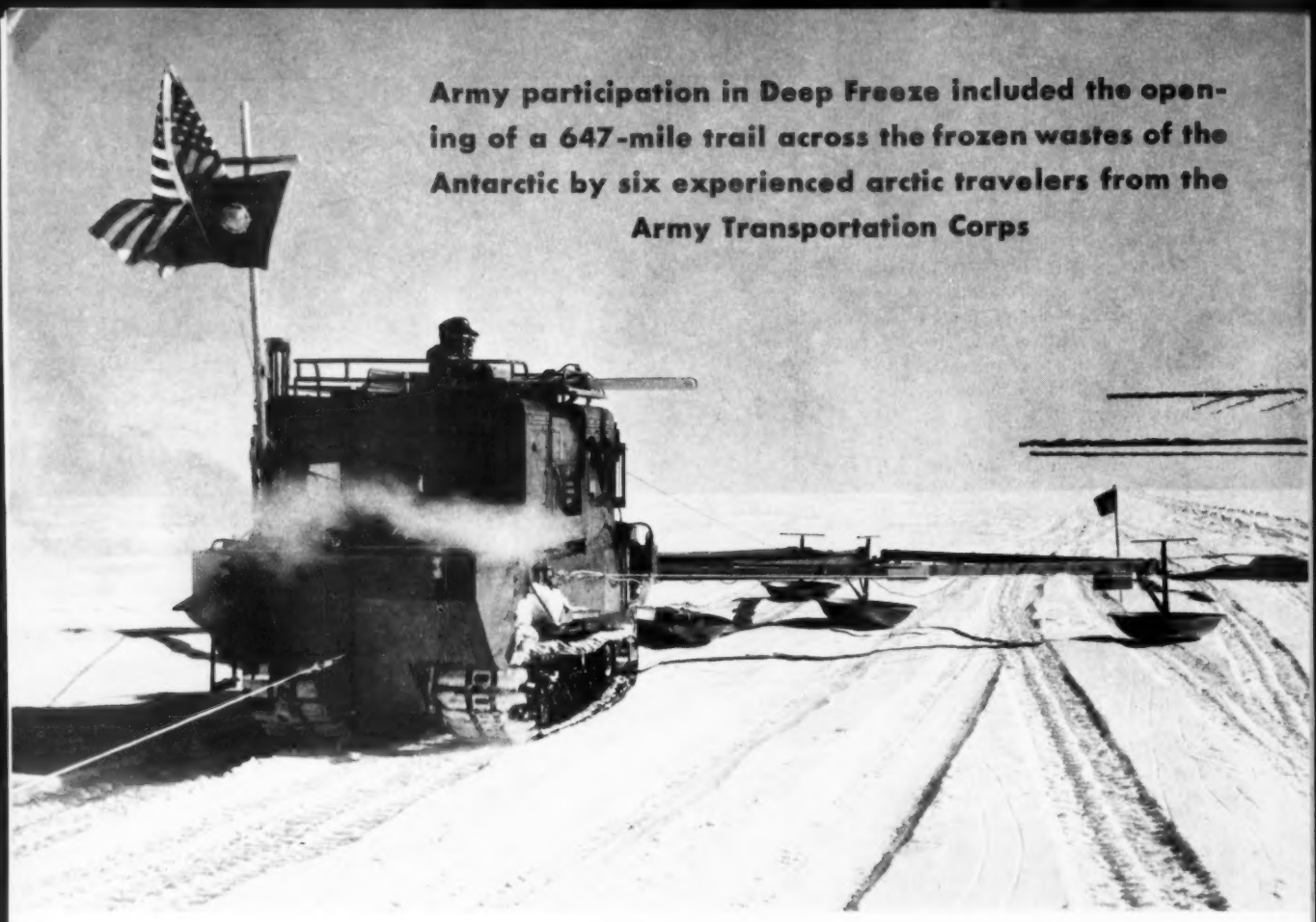
The artillery platoons are self-sufficient and self-defending, with required ammunition, food and other supplies planned for and ordered by the BC for this task force. Now the 8-inch platoon can be assigned mis-

sions of destruction, can reinforce the 105mm platoon fires, supply immediate counterbattery fire, and add depth and range, as needed. The 105 platoon should be moved to its secondary position as soon as possible behind Hill 130, supported by the 8-inch platoon, in position, as it moves forward to continue the needed close, accurate support of the infantry. A wire crew follows right behind the moving platoon, laying wire to the new position. The BC picks this position or instructs a forward observer to select a site. All administrative problems are worked out by the BC and the infantry CO.

IN using the platoon system for artillery tactics we must spread out, so as to present a poor target yet losing no control or the ability to mass our fires. The present concept of a battery front is 300 yards for an 8-inch battery, decreasing in width as we decrease calibers. Under the platoon system we should have 150 yards between light and medium artillery pieces and at least 300-yard intervals between heavy pieces. Under normal battery control, the platoons themselves should be 1,000 yards apart, with their FDC along with them; the support and headquarters section should be somewhere behind and centered between both platoons. The BC can direct which platoon's FDC is to carry the battery mission, with the other following along; or, if the platoons are laid on different azimuths, each FDC can act separately. The battery should always move in platoon echelons, especially with heavy artillery, which can hardly be spared on the road. The BC can take one FDC forward to the new positions to expedite the fires when the platoon moves up. Of necessity, a battalion area would be much larger than under the present concept, and communications and logistics would be taxed. The possibility of the platoons, operating under normal conditions, being on different azimuths gives greater flexibility and coverage to our commanders.

The proposed system will enable our commanders to get what artillery support they need, where they need it, and in the proportions they need. Junior officers and noncommissioned officers will need further training, but if they are capable as they have been in the past, they should produce hard-hitting, flexible artillery platoons capable of moving, shooting and communicating swiftly in future combat.





Army participation in Deep Freeze included the opening of a 647-mile trail across the frozen wastes of the Antarctic by six experienced arctic travelers from the Army Transportation Corps

Antarctic Trailbreakers

MAJOR FRANK B. CASE

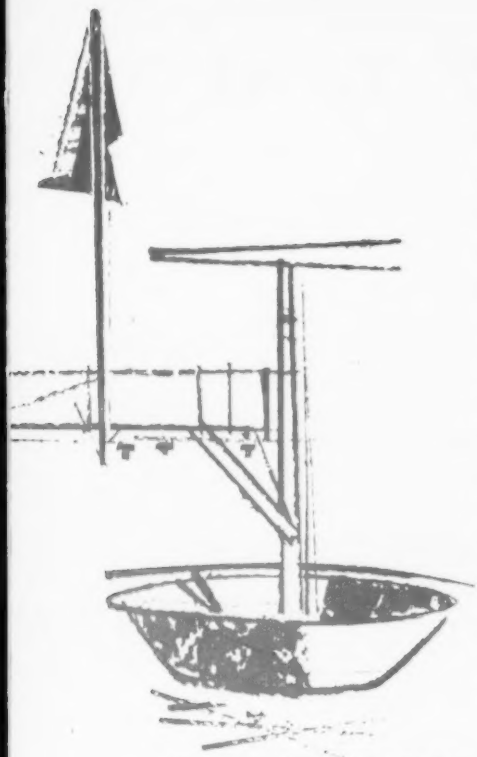
IN the late summer of 1956, at the request of the Navy, a party of six Army Transportation Corps officers and noncommissioned officers, experienced in arctic surface transportation, was attached to Task Force 43 for the 1956-57 Deep Freeze II operations. Members of the group were Major Merle Dawson, Major Palle Mogensen, Lieutenant Philip Smith, Master Sergeants Clarence Coleman and James Fields, and Sergeant First Class Alvin Krigsvold. The task of this Army element was to locate and mark a 647-mile trail from Little America V to the site of Byrd Station, to be established at 120 degrees west 80 degrees south in the heart of Marie Byrd Land in Antarctica. If and when the trail was established, Seabees of Task Force 43 would haul several hundred tons of construction material and supplies for the erection of the station, which would constitute an important link in the chain of IGY scientific installations.

The Army party was composed of volunteers skilled in planning and conducting arctic operations, either in Greenland or on the DEW line in Canada. They were flown to Little America by way of New Zealand in September. The party's enthusiasm reached a new high when, on arrival, they learned that their task was considered impossible by members of TF 43. An attempt to establish the trail the previous year had been abandoned after a driver and his tractor were lost in a deep crevasse.

An impossible task

The Army party expected to conduct the trail-marking operation without as-

Major Frank B. Case, *Transportation Corps,* entered the Army in 1941 and was commissioned from the Chemical Warfare School in 1943 and detailed in TC in 1944. He has been with the Oversea Operations Division, OCT, since 1954.



sistance, and was pleasantly surprised to receive an augmentation of five Seabees, including a radio operator and some tractor operators. This permitted an increase in the quantity of equipment that could accompany the trail party and, as a result, the trail party itself delivered about sixty tons of supplies to Byrd Station before the arrival of the heavy-cargo trains that followed the trail they opened.

The equipment of the trail party included two low-ground-pressure Caterpillar D8 tractors, a Tucker Sno-Cat, and two Weasels. Each D8 tractor towed two 20-ton cargo sleds, one of which carried a mess and command wanigan (a type of portable hutment originated in the lumber camps of the North woods), the other three supplies. The Sno-Cat pulled a sled-mounted welding machine, a one-ton sled carrying maintenance equipment and tools, and two sleeping wanigans mounted on one-ton sleds. One of the Weasels was equipped with the electronic crevasse detector developed by the Army's Corps of Engineers, and the two Weasels navigated and marked trail ahead of the support equipment.

Forty miles a day

The party originally planned to travel twenty miles a day, but during the first few days found that forty miles was practicable. On one very long day a distance of seventy miles was covered. Operations were conducted on a one-shift basis, camp being broken about 0630 and the day's run concluded at around 2000 hours. Temperatures were not particularly extreme, the lowest—a minus 38—being recorded only once.

The wanigans used for the trip were of the icebox type used by the Army in Greenland in 1952, and lacked the comforts and conveniences of new Army wanigans under current development. The four-man sleeping wanigans were poorly ventilated and very crowded. The installed toilets were

The Stars and Stripes and the banner of the Army Transportation Corps billow from a Weasel of the trail-breakers crossing the Antarctic snowfield. From the top of the Weasel, Major Mogenson watches the ingenious electronic crevasse detectors developed by the Army's Corps of Engineers

To get across a three-mile-wide crevassed zone it was necessary to travel seven and one-half miles. To cross a crevasse dynamite was used to break loose snow and ice and then bulldozers filled and packed the chosen crossing. Stakes were driven to mark the edges of the crevasses.

used only the first two days out of Little America and then were converted to storage space. There were no showers. However, the men took sponge baths in buckets, and the simplicity of the wanigans reduced maintenance problems.

Crossing crevasse country

The trail party left Little America on 8 November and traveled approximately 183 miles across Ross Ice Shelf from Little America Station to the mountains lying at the shore of the frozen sea. At this point, after a survey of the coast line, an approach route to Rockefeller Plateau was selected across a three-mile-wide crevassed zone, the narrowest found. On 17 November the crevassed zone was entered. The Weasel carrying the crevasse detector made a first pass through the zone. Where crevasse indications were detected, a flag was planted. Then the party divided into two teams to blast and fill the crevasses. About eight hundred pounds of dynamite were used per mile. The crevasses were generally larger than those found in Greenland, frequently being two hundred feet deep.

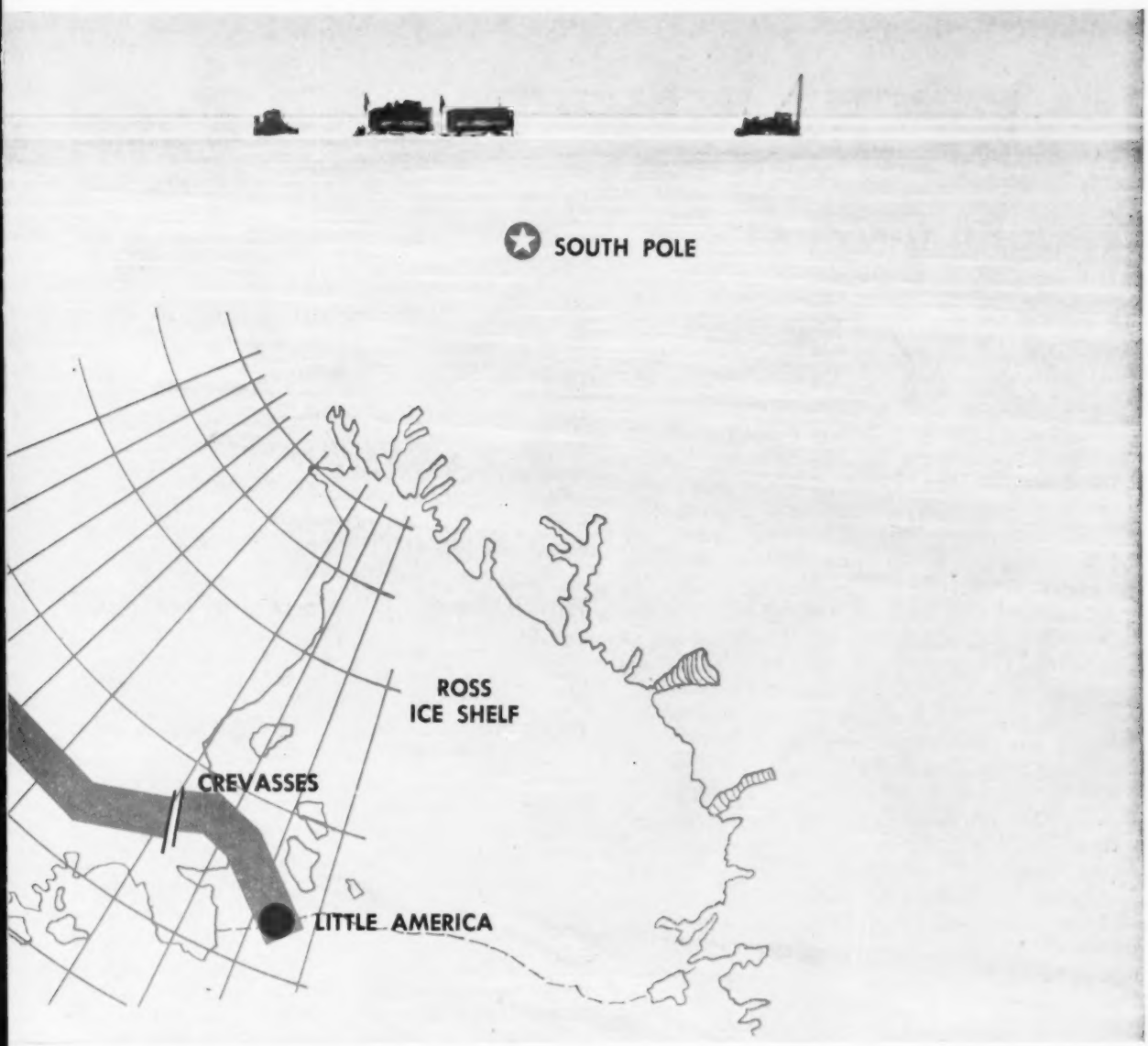
The crevasse systems in this area interlocked across the line of advance, and the trail finally established across the three-mile-wide zone was seven and a half miles long. A safe trail for heavy vehicles was completed on 30 November, and the trail party proceeded the remaining 450 miles across Rockefeller Plateau to Byrd Station.

Some crevasses were found on Rockefeller Plateau, but the systems were localized and, having been detected by the Weasels, were by-passed by the heavy tractors.

During the long run across Rockefeller Plateau and Marie Byrd Land, boredom was a constant problem. When a tractor began to wander off the trail across the landscape, it was a sign that the driver had fallen asleep and it was necessary to chase him in a Sno-Cat or Weasel and awaken him. Of course, in the crevassed zones no one was bored; elsewhere there was plenty of room for even a D8 tractor to wander safely.

Maintenance pays off

The trail party encountered few me-



chanical difficulties with its equipment. This condition, which is unusual in both Army and Navy experience with similar operations, may be attributed to the high level of operator maintenance, to close supervision and review of operators' logs by the maintenance supervisor to anticipate trouble before it happened, and to intelligent handling of the equipment.

The experience of the trail party has led to the tentative suggestion that surface transportation operations might be better conducted in the Antarctic winter than in the summer. Soft snow does not clog the vehicle's moving tracks in the winter, there is no surface melt problem, and crevasse bridges are stronger. Winter surface movements have not been undertaken in the Antarctic up to this time because air support cannot be provided. However, a well-planned surface operation does not require air cover, and with improvement of equipment for arctic transportation operations along current Army lines of development, winter movements in the Arctic and Antarctic may become SOP within the next few years.

The trail party reached Byrd Station, at the end of a 647.3-mile run, on 16 December 1956, five days ahead of the forty-four-day schedule.

The trail in use

Meanwhile, the first heavy tractor train had departed from Little America on 5 December and was met and escorted through the crevassed zone by the returning trail party, one of the Army navigators joining the heavy train and proceeding to Byrd Station with it. The second heavy train departed from Little America on 2 February, accompanied by two of the Army Transportation Corps soldiers. All planned material was delivered to Byrd Station during the 1956-57 season in accordance with TF 43 requirements.

On 26 January, Admiral Dufek informed the Secretary of the Navy by dispatch: "The services rendered [by the trail-breaking party] were considered outstanding. Their display of practical knowledge in crevasses and tractor train operations has been outstanding and invaluable to my assigned mission in establishing Byrd IGY Station in the Antarctic."

THE MONTH'S READING

No Substitute for Leadership in Combat

GEN. LUCIAN K. TRUSCOTT, JR.
Address, U. S. Army Command Management School

It was my experience during World War II that the greatest weakness in our peacetime training of leaders, particularly junior leaders, was directly traceable to our excessive reliance upon supervision and punishment as training methods or aids in training. All of our training manuals and directives emphasized development of initiative as an essential and a primary objective in training. Yet our meticulous close order drills, our caustic training critiques, our carping and critical administrative procedures and inspections—yes, our quick resort to punishment—all had served to stultify the initiative we were supposed to be developing. I found this to be one of the few faults in our peacetime preparation, but it was a difficult one to correct. While I could and did issue orders forbidding criticism or punishment of junior officers for honest errors made when acting on their own initiative, and for encouraging disciplinary action whenever they failed to initiate such action when it was indicated, it was not easy to change the habits of senior officers who had come to rely upon these substitutes for leadership in their exercise of command. I would not say that "You cannot teach an old dog new tricks," but I will certainly agree that "an old dog learns new tricks slowly" at best.

The thought I would like to leave with you is that supervision and punishment are substitutes for leadership in peacetime, and they are only partly usable in war.

Ordnance Mission

BRIG. GEN. GEORGE W. WHITE
Address, U. S. Army Ordnance Guided Missile School
7 January 1957

These are the essential perimeters within which Ordnance must function. We must provide the Army with its new weapons. They must be better than weapons available to the enemy. We must analyze thoroughly these new weapons and provide for their support in the most efficient and economical fashion. We must devise the means and methods for logistical support in such a manner as to permit the combat commander to concentrate upon his problem of engaging the enemy, with the confidence and realization that his ammunition and equipment will meet the needs of the situation. . . . I think it is very clear that we must become thoroughly acquainted with the many special problems involved in supply and service of these new weapons in support of combat forces. We must increase our emphasis on these new weapons until knowledge and understanding become the password, if you will, to all of our personnel. In so doing, to some extent, these new weapons then become more or less conventional. Naturally we must improve upon them until we have the very maximum in efficiency as far as design and maintenance are concerned. . . . Our schools must plan for the future in order to provide that reservoir of technical knowledge so desperately needed should an M-day come. Right today, the Ordnance priority mission is probably to develop, supply and maintain these new weapons for the combat commander. In order to do this, of course, our training program must thoroughly treat with all of the technical ramifications, the management ramifications, of these complex weapons systems.

Travel Directed Is Necessary to Military Service

From: Acting Commandant, Federal Defense of Yorktown and New York Harbors, Yonkers, N. Y.
To: Commanding Officer, First Light Infantry, Braddock's Barracks, Miller's Junction, R. I.

Issue the necessary orders sending one enlisted man on horseback via safest and most convenient route at Government expense to Fort Von Steuben on the Ohio River below the junction of the two great rivers at Fort Pitt, for the purpose of carrying secret dispatch to Major Alonzo D. Lafayette who at the last official roll call was Commandant of Fort Von Steuben. If upon arrival, Major Lafayette is dead or resigned, the soldier will deliver the dispatch to the immediate Commanding Officer. The expense section of the Finance Department will supply this courier with the necessary cash to buy himself sufficient food supplies to subsist him in the entire journey. If the Finance Department at the destination is not functioning, the Enlisted Man is authorized to barter with the neighboring Indians for necessary salt and other miscellaneous necessities for the return trip. Uniform buttons and musketry badges may be utilized in connection with bartering. If the situation warrants fraternizing with Indian tribes, due precautions will be taken in so far as the relief tepees are concerned, soldier making full use of his medical kit immediately after exposure. The expedition directed is considered necessary to the military service. Government mounts and subsistence will be furnished, and if used in bartering, uniform buttons and marksmanship medals will be replaced by the Government upon application for same by the Enlisted Man concerned. Upon return to his home station soldier will submit a written report showing the full names and ranks of Commanding Officers of all military forts visited so that the Department of War can be informed and bring their rosters up to date.

The 1st Regiment of the National People's Army receives its colors from Defense Minister Willi Stoph, wearing the uniform of a Colonel General. The billboard reads: "I swear always to truly serve my Fatherland, the German Democratic Republic"

The East German Wehrmacht

MAJOR
WALTER D. JACOBS

ON 17 January 1956 there was nothing, "officially" that is. On 18 January the *Nationale Volksarmee* (National People's Army) sprang fully-armed from the forehead of the *Volkskammer* (People's Chamber, or lower house of Parliament) of the German Democratic Republic—Communist-dominated East Germany.

As in the legend of the birth of Athena, who sprang fully-armed from the cloven brow of her father Zeus, more than a few elements of myth are present in the "official" version of the birth of the National People's Army.

There appears to be no mundane explanation for the remarkable debut of Athena. However, there is a most simple explanation for the overnight development of the 100,000-man army

The top dogs of the East German hierarchy are subservient to the Kremlin

WILLI STOPH
Minister of National Defense
Colonel General, People's Army

OTTO GROTEWOHL
Premier, Communist East Germany

in the Soviet Zone of Germany.

The KVP (*Kasernierte Volkspolizei*, or Barracks-Based People's Police) had been in existence since 1948. During that time it had masqueraded as a conventional police force even though organized into military units armed with tanks, artillery, and YAK aircraft. On 18 January the People's Chamber decreed that the National People's Army should come into being and provided a uniform for it. Thus, by a change of uniform, the People's Police became the National People's Army.

No surprise

To say that no one was surprised is to elaborate the obvious. The reason for the public action of the People's Chamber is perhaps less obvious. Its action of 18 January is certainly less important than what was revealed. The People's Chamber itself is a legislative body only in the Communist meaning of the term. Its actions and decrees only mirror the decisions of its masters in East Berlin and, ultimately, those in Moscow.

The People's Army, on the other hand, is an actuality in every sense of the word, representing a definite force in the power arrangement of the contemporary world.

The People's Police is reported to have attained a strength of 111,000 men by the end of 1954. Of these, 95,000 were in the army element (*VP-Heer*), 9,000 in the naval element (*VP-See*) and 7,000 in the air forces (*VP-Luft*).

Organization of the People's Police

The army components of the People's Police were divided into three corps (two in being, one organizing) and a division-size unit stationed at Potsdam and available for special assignments under the direct control of the Interior Ministry.

Army Corps North, with headquarters at Pasewalk, was commanded by Major General Hermann Rentsch, a former lieutenant colonel who had served against the Red Army on the Eastern Front during World War II. He attended the first class of the Soviet's Privolsk Staff College near Saratov in 1949-50.

Two motorized divisions were assigned to Army Corps North, one stationed in Schwerin (Colonel Martin Bleck), the other in Prenzlau (Colonel Karl Riedel), with a mechanized division at Eggesin (Colonel Siegfried Weiss).

Army Corps South was commanded by Major General Fritz Johne, with headquarters at Leipzig, a city which, incidentally, was liberated by American troops. Johne had long been a member of the Communist Party. He fought in the Spanish Civil War, and also attended the first class of Privolsk Staff College.

Army Corps South had two motorized divisions: one at Halle (Colonel Voigt), the other at Erfurt (Lieutenant Colonel Martin Guenther). Its mechanized division, commanded by Colonel Werner Pilz, was stationed at Dresden.

Both corps had normal complements of artillery, flak, engineer and intelligence troops.

Army Corps Center was developing around the kernel of the mechanized division commanded by Colonel Ernst at Potsdam.

The People's Police wore the olive-green uniform similar to that of the Soviet Army. Units were equipped throughout with Soviet weapons, including Stalin I and II and T34/76 and T34/85 tanks.

Party-line commanders

Lieutenant General Karl-Heinz Hoffman was the German commander of the People's Police. He had been a

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Major Walter Darnell Jacobs, *Infantry,* USAR, enlisted in 1942 and served until 1953. A graduate of the Army Language School's Russian course, he earned an M.A. in political science and the certificate of the Russian Institute from Columbia University. He is in charge of the program for the exchange of publications with the Soviet Union at the Library of Congress, and recently was awarded a Ford Foundation fellowship for study beginning in September.

WALTER ULBRICHT
East Germany's Khrushchev

member of the German Communist Party since his youth. At twenty-five he emigrated to the Soviet Union where he attended Frunze Academy. He was a battalion commander and later a political commissar in the 11th International Brigade during the Spanish Civil War. From 1941 to 1943 Hoffman studied at the School of the Communist International. He became a member of the Communist Party of the Soviet Union and a Soviet citizen. In 1945 he returned to Germany. Hoffman is a member of the People's Chamber and of the Central Committee of the Socialist Unity Party.

The 9,000-man naval element of the People's Police, based at Rostock on the Baltic Sea, was commanded by Admiral Waldemar Verner. He appears to be professionally unqualified.

Major General Heinz Kessler commanded the air forces of the People's Police. He was a soldier in the German Army until he deserted to the Reds in 1941. While in the Soviet Union, Kessler became a member of the National Committee for a Free Germany. He returned to Germany in 1945. Thirty-seven years old, his command qualifications are suspect since he is not professionally qualified but is apparently politically reliable in the eyes of the Communists. His chief of staff, Major General Heinz Zorn, a former *Luftwaffe* major, is probably the professional leader of the air force. It consisted of three air divisions based at Cottbus, Drewitz and Bautzen. Among its armament were about 120 YAK-18s and about 180 YAK-11s. There is no evidence to indicate that the air element of the People's Police had any MIG-15s or other jet aircraft. At least it had none before 1956, when it ceased to be a "police force" and became a part of the national "defense forces."

Double concealment

So far this discussion of the People's Police has dealt with German personnel. The People's Police was, however, a concealment within a concealment. The first, or "overt," concealment was the fiction that it was in fact a police force, for in truth its only police functions were border patrolling and some coastal patrolling. These units wore traditional dark-blue police uniforms and were easily distinguishable from the Barracks-Based People's Police.

The second concealment was the fiction that Germans exercised command within the People's Police. Command was actually exercised by Soviet Army officers. In every unit were several Soviet officers, political officials, and members of the MGB (Ministry of State Security) known officially as "advisors" and unofficially, among the troops and citizens, as "Sovietniks." Orders of German commanders in People's Police units had to be approved by the sovietniks. The German commanders were also under surveillance by the State Security Police and the Military Counterintelligence.

The "Summit Conference"

Until July 1955, the People's Police continued in its role as a "police force." Then the "summit conference" of the heads of government of the United States, the Soviet Union, the United Kingdom and France was held at Geneva. With the "spirit of Geneva" at its height, the People's Chamber put through a change in the Constitution of the German Democratic Republic asserting that "the protection of the Fatherland and of the achievements of the workers" was henceforth to be "an honorable duty of citizens of the German Democratic Republic," and declaring that "The Republic shall be the legislatory instrument for the military defense of the Fatherland and for the protection of the civilian population."

To understand this action we must recall the atmosphere that prevailed after Geneva when the line separating reality from fantasy was so indistinct as to be nonexistent. The West had brought itself to a position where the Soviet leaders could think that NATO and the development of Western forces could be vitiated either by coercion or persuasion, or by a combination of the two. The persuasion line was based on extensive peace propaganda, disarmament projects and outlawing of nuclear weapons. It culminated in "the spirit of Geneva." The coercion line was based on strengthening and consolidating the Soviet empire in Europe. The opponents of the Soviets were given a demonstration of force which was hoped to be so overwhelming as to lead Westerners to believe that opposition was futile and, in atomic terms, idiotic.

The reality of power

The Soviets, while combining and alternating persuasion and coercion, never lost sight of the power realities in which they operated. The action of the People's Chamber in changing the Constitution was another admission that the Soviets were continuing to play the game at the power level. Should the West fail to be persuaded or coerced into abandoning NATO, the Soviet Union was making sure it would have its new *Wehrmacht* in being and on the ground.

Inside the German Democratic Republic, the action of the People's Chamber in changing the Constitution signalled an intensified propaganda campaign designed to popularize and justify the creation of conventional and overt military forces. Two main points were stressed. First, the "revanchist militarism" of the Federal Republic of Germany (Bonn), which "forced" the German Democratic Republic (Communist) to arm itself in self-defense. Second, the "military tradition" of the historic German working class. The need for the East German government legally to fulfill its obligations under the terms of the Warsaw agreement was also admitted but not accented in political propaganda.

By 18 January 1956 the propaganda campaign and the world political situation had apparently reached a point at which the Soviet leaders considered it expedient to launch the National People's Army.

The national tradition

The People's Army was premiered

May Day 1957 in East Berlin saw the usual Communist parade including such para-military outfits as this Kampfgruppe of factory workers

publicly in East Berlin on May Day of 1956. It looked much like the People's Police except for its new uniform.

Willi Stoph, Minister of the Interior, had declared in January that "in contrast to the West German mercenary formations which have American uniforms, our *Nationale Volksarmee* will wear German uniforms which bespeak the national traditions of our people." The uniform East Berliners saw on May Day could well have been taken from an old German Army warehouse. The cut and color were Hitlerian, even to jackboots. Only Soviet helmets, Soviet arms and Soviet equipment were new. If Stoph is to be taken literally, the "tradition" of the German working class is simply the addition of a Soviet superstructure on a Nazi base.

Aside from uniform, there was little evident difference between the old People's Police and the new People's Army. Hoffman remained as commander, and became a member of the staff of the Supreme Command of the Warsaw pact. Verner became commander of the naval forces. It is not clear from published sources whether Kessler retains command of the air forces.

More "Line" commanders

Stoph, one-time Interior Minister, became Minister for National Defense and Colonel General of the People's Army. His qualifications for the highest-ranking post in the People's Army are almost purely political. Lieutenant General Vincenz Mueller is his chief of staff. Mueller commanded XII Corps and was deputy commander of Fourth Army in World War II. He surrendered his army at Minsk in 1944. In the Soviet Union he became a member of the League of German Officers and of the National Committee for a Free Germany. While there he received an intensive political indoctrination. Mueller apparently acts as Stoph's *alter ego* in military affairs. His military skills are supplemented by those of a number of former armed forces officers.

The West German Ministry for All-German Affairs estimates that of the known membership of the People's Police staff in 1955, almost 75 per cent were former members of the German armed forces. The Ministry also notes that 72.4 per cent of the general officers had been schooled in the Soviet Union. The Soviets are attempting to utilize the military skills of these professionals while at the same time assuring their political reliability. The need for such reliability is underscored by the wavering role of the People's Police during the revolt of 17 June 1953.

Para-military strength

The May Day parade revealed several para-military units. Among these were the Works Fighting Units, fac-

tory workers armed with small arms and automatic weapons, whose strength is estimated at 70,000. These units were organized after the June 1953 revolt to "defend the peoples' factories against Western dissenters and saboteurs." Others include the youth organizations such as Associations for Sport and Technical Matters, Free German Youth, State Security Police, and People's Police (which continues its existence after the creation of the National People's Army).

An accurate count of the armed units in the Soviet Zone is not obtainable. A compilation of several estimates from reliable sources places their strength at these approximate figures: National People's Army, 111,000; Works Fighting Units, 70,000; State Security Police, 65,000; People's Police, 50,000; Soviet Army, 400,000.

It is obvious that not all of these units are front-line combat troops, for only the Soviet Army and the People's Army can be so considered. The others can be used against internal revolt or in "border incidents" or as file closers in a ground assault to the west. Nevertheless, the armed might now on the soil of the German Democratic Republic must be considered formidable. Used in a non-nuclear war, it has a good chance of initial success. In an atomic war, it can be a positive force.

The Socialist camp

The Soviets are making continuing attempts to strengthen the military and para-military forces in their Zone. Propaganda along the 1955-56 line has been continued and intensified, supplemented by emphasis on the strength of the "Socialist camp." A pamphlet, *Military or Militaristic?* states that "the Korean people's army and the Chinese people's volunteers have once again proved that armies of the peoples are invincible. They have destroyed the myth of the 'invincibility' of the USA army." In the best Communist ideological view of history, the future belongs to the working class, of which the People's Army is an "honorable part," and the defeat of the imperialists is held to be inevitable. The promise of being on the winning side in history is a powerful propaganda weapon.

Also significant from a political and ideological viewpoint is the Berlin agreement of 12 March concerning the "temporary" stationing of Soviet troops in the German Democratic Republic. A delegation of first-line Soviet officials, including Andrey Gromyko and Marshal Zhukov, flew to Berlin for the signing of this pact. The pact itself provides that the "temporary stationing" of Soviet troops "will not infringe the sovereignty" of the German Democratic Republic and that "Soviet troops will not interfere in the internal affairs of the GDR and in the social-political life of the country." It provided further that details concerning the departure of Soviet troops from the Democratic Republic would be arranged by negotiations at governmental level between the Soviet Union and the GDR. No time limit was placed on the "temporary" stationing of Soviet troops.

Lots of Talk

The Berlin pact is typical of Communist agreements in that what it does not say is more important than what it says. The speeches of the official delegations at the signing ceremony contain more substance than does the pact.

Premier Otto Grotewohl said: "To the west of our homeland, on the territory of the Federal Republic of Germany, a revived German imperialism is preparing new aggression. It does not conceal its revanchist plans against the camp of socialism."

Stoph declared that "In view of the threat of militarism which is revived in Western Germany this agreement is necessary for the providing of security for both our nations."

Walter Ulbricht, "the Khrushchev of the GDR," stated that the "temporary stationing of Soviet troops in the GDR, the brotherly union of the GDR with the Soviet Union and with other states of the Warsaw agreements gives a guarantee that the plans of the Western German imperialists will not be realized." He added that there is "only one way open for the democratic reunion of Germany—the solidarity of the working class of Germany and all peace-loving Germans for the battle against the policies of NATO and for a peace-loving, democratic Germany."

A similar line came from the Soviet side. Zhukov criticized the Western powers for refusing to agree to abolish all bases on the territory of foreign nations. He welcomed "the young *Nationale Volksarmee*" into the brotherhood of those nations providing security to the camp of socialism.

Gromyko maintained that: "We are certain that the population of Western Germany does not want war. However, the path of revived German militarism on which the Federal Republic of Germany has embarked and its enlistment in the aggressive North Atlantic bloc directed against peace-loving states . . . demand the taking of the present measures for the security of our nations."

Purposeful dissembling

The repeated emphasis on the building of GDR forces as a counterweight to "revived German militarism" in the West is obvious dissembling, but with a purpose. It appeals to those who might extrapolate that were there no West German forces, there would be no need for German forces in the Soviet Zone. This is not true, of course, but it is an appealing propaganda line especially in view of arguments in the West for a neutralized buffer in Central Europe. Destruction or immobilization of West German and other Western forces in the Federal Republic of Bonn is a basic aim of the Soviet leaders. While attempting to achieve that aim the cheap way—that is, by persuasion—they continue their more realistic efforts to achieve it the expensive but realistic way.

Armament of the People's Army and of para-military units continues. The air forces will shortly be equipped (or indeed, may already be equipped) with jet aircraft. The People's Army may shortly be equipped with atomic weapons. It has participated in maneuvers with Soviet troops. (General Bela Kiraly, of the Hungarian freedom fighters, told the Senate Internal Security Sub-Committee on 19 February that Marshal Zhukov supervised the 1955 and 1956 war games. Zhukov is reported to have criticized the lack of mechanization and atomic weapons in satellite armies.) The Works Fighting Units participated in various war games in the Soviet Zone in April.

The Soviet approach to the problems of the next war may not be the correct one. It is an approach which is positive in that it is based on forces in being and on the improvements of arms in the hands of troops. It combines this positive policy with an ideological policy designed to confuse and subvert the West. The Soviets are planning, to the limit of their ability, to be able to fight any type of war, from "police action" to missile-atomic war. They show a willingness to sacrifice the National People's Army whenever it is to their advantage. The price the West will have to pay to see the destruction of the People's Army will be great, whether in peace or in war.

Rear Admiral Albert Girard Mumma, U.S.N.
Chief, Bureau of Ships

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". . . reliance was placed on oral orders."

the Inkhorns

The itch to sully fair paper with redundant words has a long and intolerable history

MAJOR REGINALD HARGREAVES
ILLUSTRATED BY THE AUTHOR

IT cannot be emphasized too often or too clearly that the serviceman is no saber rattler; that he belongs to one of the very few professions whose members prefer rehearsal to performance. Yet there is one war at present raging which evokes his very heartiest commendation: the war being waged by military authorities against unnecessary "paper"—or, as the British rather crudely call it, "bumph," a term whose connotation a moment's thought should render clear.*

The pernicious superfluity of paper by which present-day service units are cursed is the outcome of widespread near-literacy and the larger numbers of fighting forces required in this time of danger.

The Happy Barbarians

The untutored barbarians who swarmed at the heels of Attila were wholly and happily illiterate; the hordes of Genghis Khan and Tamerlane no more lettered. Yet the organization of their respective forces, though loose-knit, was thoroughly effective without a single directive being committed to parchment. The equivalent of certain standing orders—such as Genghis Khan's grim command that if any troops retreated before any instruction to withdraw had been given, their comrades were to fall upon them and wipe them out—were circulated by word of mouth. Since they were as few and simple as the tactical evolutions upon which all encounters were based, they were easily assimilated and remembered. Neither were these early fighting units plagued with the spate of paper arising out of the organization of supply. Attila and Tamerlane lived on the country; while Genghis Khan provided against the shortages his desert marches would otherwise have entailed by directing each of his warriors to report with not less than eighteen horses and mares, "so that they might have mare's milk and horse's blood for food and drink." According to Ramusio's edition of *Marco Polo's Travels*, yogurt, prepared with leaven and curdled milk, was the principal form of subsistence.

Even with the far more literate Roman Army, orders were transmitted by word of mouth; junior staff officers and headquarters orderlies delivering them in person to all units in the camp. They were also responsible for informing the camp guard and outposts of the current parole and countersign. On the logistical side, however, paper undoubtedly played its part. For certain officials known as *librarii* were employed solely to keep the legions' accounts, check rations and supplies, and maintain a roster of recruits, qualified legionaries, and those lusty *evocatii* who, their normal span of twenty years' service ended, had elected to rejoin the ranks.

Ignorance Still Bliss

With the medieval armies that assumed a recognizable organizational structure some six centuries after the fall of Rome, literacy was at a low ebb, even among many of the leaders. In the main, therefore, reliance was placed on oral orders; such as those circulated by King Edward's "marshals" prior to the great fight at Creçy in August 1346. But if battle orders were curt and simple, elaborate standing orders—the Ordonnances of War—were drawn up by the leaders before embarking on a campaign. These ordonnances were read out on behalf of the provost marshal by the monastery-bred lay clerks attached as scriveners to the army. These clerks were also employed after an action to "number up the illustrious dead," taking careful note of their names and rank, and to work out the terms of ransom in behalf of the captor of a wealthy prisoner.

It was the invention of printing that created a deep gulf between the Middle Ages and the Renaissance; and with the printed word came a more general literacy. And with greater literacy was bred that combination of greed and cunning which seeks to advantage itself by means of corruption and malfeasance. Thus, in the reign of England's Elizabeth I, the increase in power enjoyed by captains of companies was accompanied by opportunities for peculation of which they were sufficiently "educated" to take full advantage. Indeed, so flagrantly did some of them set about the congenial business of lining their own pockets that the suggestion was put forward that a monthly statement of accounts should be forwarded to higher authority "of how every Captain had been employed, and of what service he and his men had done, and what money had been spent, and upon what."

Upon the indignant captains pointing out that they were "warriors, not ink-horns," and that anyway, they were much too busy fighting to have time for scribbling, the proposal was dropped. But the suggestion must have taken root, for it was not long before we find mention of a "Clerk to a Company," and, shortly after, to a "Clerk to the Colonel"—presumably to keep on eye on the lesser company clerks!

Buzzing Hive of Clerks

Oliver Cromwell's New Model Army was founded by men who had seen active service in France and in the Low Countries. It was an amalgam of the best in the way of organization that continental Europe had to offer. And in its structure the importance of pens, ink and paper was given almost exaggerated recognition. With "Ad-

*For Americans who do not immediately comprehend this Anglicism, the more delicate phraseology of Madison Avenue is toilet tissue.

Major Reginald Hargreaves, British Army, retired for wounds received in World War I, has published articles about some of the lesser-known byways of military history in several publications—this is his sixth for *ARMY*. During 1956 he lectured in the United States.

ministration" including two Treasurers-at-War, the Commissary-General and the Mustermaster-General, there was soon a buzzing hive of clerks at work busily producing "paper." What was even more intolerable was the fact that they were better paid than the men who did the fighting! By 1639 a general directive laid it down that even the serjeant-major (this was subsequent to the days when the serjeant-major general was the third senior general officer in the hierarchy of command) should be "a good scholler, and witty, and quick of apprehension, and furnished with an able memory; and he must have a paper book, pen and inke, to sett down all the orders and commands." The itch to sully fair paper with redundant words was spreading.

The great Duke of Marlborough, and Cadogan, his chief of staff, would appear to have been far more restrained in their encouragement of paper. Negotiations with various grasping or reluctant allies inevitably involved the Duke in a mass of diplomatic correspondence. But in the field, pen and ink were accorded remarkably little importance. Marlborough himself wrote the dispatch announcing the resounding victory of Blenheim on a borrowed scrap of paper, in four sentences totalling exactly seventy-nine words.

Bumph Forges Ahead

Literacy had made certain modest strides by the time of the American War of Independence, although it was still far from general among the rank and file, on either side. Admittedly, a British order of 1758 had laid it down that an officer, in addition to a leather valise, should furnish himself with "a travelling letter case, containing pens, ink and paper, wax, and wafers"; and since another order, of 1781, is insistent that "Accounts should be kept regular," it is not difficult to divine to what purpose this assortment of stationery and equipment was intended to be devoted. Again, Washington's order books, like those of Howe, Burgoyne and Clinton, are rather compendious volumes. But for the most part, the entries did no more than record orders that were circulated by word of mouth. Baron von Steuben distributed three thousand copies of his drill book; but far more good was effected by his indefatigable personal instruction than by the precepts he had committed to paper.

By 1781, however, the craze for paper within the British forces was beginning to assert itself alarmingly. A dozen monthly or weekly returns were demanded of an infantry battalion, while a mounted unit, with its many horses to account for, was expected to fill up between eighteen and twenty. Even the serjeant-major was required to "keep a roster and role of duties of the non-commissioned officers and men." Bumph was getting confidently into its stride.

Like Marlborough, the Duke of Wellington, when in command on the Iberian Peninsula, was committed to the inditement of a series of dispatches which, tersely written as they are, in collected form fill over a score of volumes. In the field, however, his orders —written on small oblongs of bleached ass's skin especially prepared for the purpose—were of a brevity that matched their infrequency. Yet one of his most trusted subordinates—Major General Sir Thomas Graham of Balgowan, later Lord Lynedock—could affirm that the Duke's curt, crisply phrased directives were "so clear that he defied any man who called himself an Officer at all to blunder."

The Iron Duke vs Bumph

Where official correspondence with the heads of government, the Horse Guards, and the innumerable subsidiary departments, was concerned, at one period the flood of "paper" became so overwhelming that Wellington wrote in protest to the Secretary of State:

> If I attempted to answer the mass of futile correspondence that surrounds me, I should be debarred from all serious business of campaigning.
>
> I must remind your Lordship—for the last time—that so long as I remain [in] an independent position, I shall see that no Officer of mine is debarred —by attending to the futile drivelling of mere quill-driving in your Lordship's office—from attending to his first duty—which is, and always has been, so to train the private men under his Command that they may, without question, beat any force opposed to them in the field.

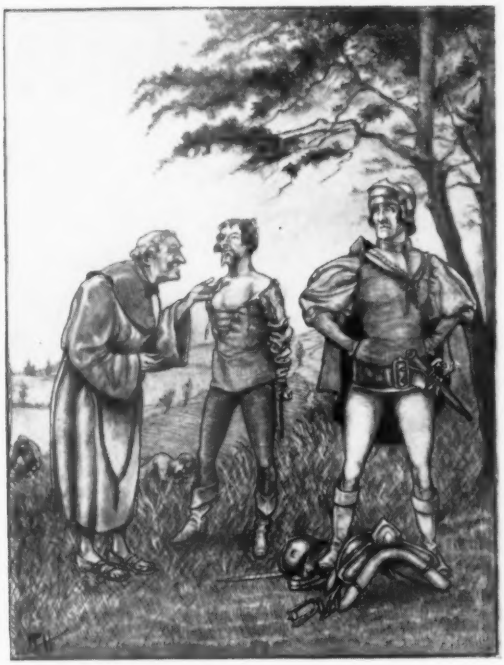
Departmental prolixity, however, is very hard to restrain. For, only a few years later, General Sir Charles Napier, after a tour of military establishments in India, exclaimed with justifiable petulance: "Every regimental Officer is overwhelmed by paper. Every Orderly Room is now a War Office in little."

Not every commanding general is endowed with the wit and the moral courage successfully to defy overbearing members of the government. Certainly Lord Raglan, commanding the British forces in the Crimea, was soon submerged under the flood of letters and instructions that reached his field headquarters on the slopes facing Sevastopol. His burden was by no means lightened by the fact that, for the first time, the army in the field was linked to the seat of government by the electric telegraph—an additional source of paper that was often ludicrous in its stark irrelevance. Whether permission to grow a beard encouraged men to desert more freely was debated—by correspondence and over the cable—with the same inconsequential gravity as the fact that a certain Captain Jervis had been stung by a centipede. While far more serious matters suffered progressive neglect, there was even a lengthy exchange as to the appropriate brand of porter to be shipped for consumption by the Brigade of Guards. It would almost have been pardonable had the pestered Raglan telegraphed back, "Haven't you heard there's a war on?"

Six Copies in Triplicate . . .

It was the introduction of the typewriter—and its baleful accompaniment of carbon copies—into official use that gave such fearful impetus to the ever-rising flood of bumph from which the fighting units became, as they continue to be, the hapless victims. (The patent for "an artificial machine for impressing letters one after the other, as in writing," was taken out in London so early as 1717; but the use of the typewriter did not become anything like universal until well into the second half of the nineteenth century.)

Of course orders—standing orders, routine orders, operations orders—must be written and given proper circulation; while the tremendous logistical problems involved in modern warfare demand a whole range of written directives solely on their own account. Unquestionably, where battle fighting is concerned, written orders are essential. The oral transmission of instructions is likely to result in garbled messages. The greater the number of individuals entrusted with the task of passing them on, the greater the risk of their perilous distortion. Where written orders are concerned, the laudable desire for brevity should never be indulged at the cost of lucidity. Written orders must be explicit as well as brief,



". . . to work out the terms of ransom."

". . . overwhelmed by paper."

and as nearly foolproof as human skill can make them.

In general, it is not so much among the combat units that the superfluity of paper abounds. Rather, they are the victims of that insatiable appetite for "returns" and the like which characterizes the rear echelons and the higher units. In the remote, rarefied atmosphere of a GHQ or army headquarters, it is so easily forgotten that the more "quill-driving" the troop commanders have to cope with, the less time and energy will they have left over to devote to field training with their men.

Peacetime Paper Empires

This state of affairs is never so acute as when the forces, during what nowadays pass for peacetime conditions, are undergoing extensive expansion; with a large influx of inducted men subjected to a relatively brief period of indoctrination, before relegation to the reserve. Since everyone is trying to determine which method of training is most likely to ensure victory in any future war, such a situation offers innumerable opportunities for intervention on the part of the doctrinaire and the specialist with a personal axe to grind. And individuals of this kidney are never reluctant to commit their ideas to paper, and thereafter ensure its widespread circulation. Moreover, any large-scale amplification of the forces incites the mandarins of administration to the multiplication of forms that do little more than father additional forms, until the cascade of bumph swells into a positive torrent. Offshoots of the administrative machine—at the outset alleged to be purely of a temporary nature, a matter of a junior officer and a couple of clerks—at once begin to proliferate in all directions. In less than no time the individual "dressed in a little brief authority" has dug himself in, wangled the service of a non-commissioned officer and another three or four clerks and a couple more officers —thus ensuring his own promotion, so that he can rank the newcomers—and a new branch department has come solidly into being. As a means of establishing its importance and manifesting its activity, paper flows from it with the relentless onrush of a river bore. Moreover, in all administrative and headquarters units there are to be found individuals who evaluate their own importance, and that of their department, by the amount of paper to which they attach their signatures. Thus we find that whatever the paper shortage elsewhere, there is none apparent in those centers which control the destinies of a country's fighting forces.

Written orders of course there must be. Under modern conditions of warfare, when a single infantry division requires 17,000 tons of matériel to start an offensive, and 580 tons a day to keep it going, their employment is inescapable. One can even appreciate that in a major enterprise such as the Normandy landing orders should be on such a compendious scale as to tip the balance at 300 pounds dead weight.

But orders for orders' sake . . . !

When all is said and done, God is on the side of the big battalions, not on that in possession of the greater number of typewriters.

THE FIRST COMMAN

BRIGADIER GENERAL DONALD ARMSTRONG

THE year was 1922 and the place was a classroom in a fine old building in Metz, France. That day a score of French generals of artillery with two junior foreign officers, of whom I was one, were engaged in a map maneuver which was the culmination of our two months of study. The problem was the deployment and use of artillery in the advance of a field army.

Suddenly and without warning the door opened. The new Chief of Staff of the French Army, one of the great commanders in World War I, General Marie-Eugène Debeney, was looking us over. In less than half an hour he analyzed what he saw on the map. There followed one of the most savage critiques I have heard. Frederick the Great's pointed comment to his generals that he had "two mules in his army who had gone through twenty campaigns, but they were still mules" was mild in comparison to General Debeney's tirade. One of his principal criticisms was the "usual thoughtlessness of line officers concerning the mutual reaction of tactics and logistics in a war of movement."

Long before that, another knowledgeable commentator on war and humanity in general had also been impressed with the importance of logistics.

Tactics, said the Greek philosopher Socrates nearly twenty-five hundred years ago in language less violent than General Debeney's, is "only a small part of generalship." The first and greatest commandment is that a general "be capable of furnishing military equipment and providing supplies for the men."

Socrates knew what he was talking about. He had been an infantryman who had served in the ranks in two campaigns. Xenophon, who recorded this conversation in his Memorabilia, was the famous leader who fought his way to safety with the Ten Thousand. He too must have believed in this specification for generalship which has been emphatically confirmed by the leaders of our armies in both world wars and in Korea.

I WAS reminded of this lesson from General Debeney's critique and from the ancient Greeks when I visited Fort Lee, Virginia, in May, to attend Logex 57. I had been aware of these annual logistical exercises but this was my first opportunity to see one close at hand. I must say that what I saw convinced me that Logex 57 will be of great assistance to future commanders of our field armies. It will help them to furnish military equipment and provide supplies in spite of the prodigiously increased complexity of modern war.

It may be that the name Logex 57 needs some explanation. If it sounds a little like one of those mysterious and magical ingredients broadcast by the air-wave hucksters to sell their cures for everything from tired blood to falling hair, it could be said that Logex 57 does have many curative and preventive qualities.

It is a sure cure for parochialism. Its emphasis on team play and cooperation of all the Army's administrative and technical services and between the Army, Navy and Air Force helps prevent confusion and cross-purposes.

Although security reasons bar as great realism as would be desirable in the assumed conditions of combat, Logex 57 will prevent a dangerous unfamiliarity with the realities of nuclear war. It will cure participants of any hope that everything will go according to plan. The friction of war plays an important role in the exercise in a most realistic fashion. Logex 57 also provides valuable training to selected Army Reserve officers as well as some foreign officers from friendly countries.

The logistical command post exercise and map maneuver known as Logex takes place each year at Fort Lee. This year's model is the culmination of a series of map maneuvers originated in 1940 by the Quartermaster School. In 1957 the exercise had expanded to include seventeen schools and colleges of the U. S. Army, as well as the Navy, Air Force and the State Department. Headquarters USCONARC now supervises it while the maneuver director this year was the Commanding General, 1st Logistical Command, at Fort Bragg, North Carolina, Brigadier General A. G. Viney. This year's exercise, started on Mon-

Brigadier General Donald Armstrong, USA, retired, was commissioned in the Coast Artillery Corps in 1910, and served with the French Fourth Army, the First U. S. Army, and on the staff of the Chief of Artillery, AEF, in the First World War. Later he was assistant military attaché in Paris and attended French military schools. After transferring to the Ordnance Department in 1933 General Armstrong became Chief of the Chicago Ordnance District, commanded the Ordnance Replacement Training Center, and was Commandant, Army Industrial College.

DMENT OF LOGISTICS

A LOOK BEYOND LOGEX 57 AND ITS PREDECESSORS

day, 13 May, and finished the following Saturday, owes much of its success to the painstaking preparation and effective direction of General Viney and his staff.

WESTERN EUROPE is the scene of this exercise. An Allied counteroffensive has commenced, to drive Aggressor from the area. The problem is the logistical support of Tenth Army, and more than six thousand officers and men participated and applied their knowledge to its solution. Of this number, the actual players were approximately 1,500 student officers of the technical service schools plus two hundred Reserve officers. The exercise required six hundred umpires provided by the school faculties and Reserve officers. The play involved constant changes in the combat situation including repeated atomic attacks extending from the front to the permanent bases on the coast, guerrilla raids in the advance section of the communications zone, submarine attacks on Allied shipping, and a variety of other hostile action. Changes in plan and shifts to new positions were allowed only after the lapse of the probable time needed to adjust to the new situation.

Every effort was made with varying success to avoid fighting World War II over again and to anticipate imaginatively the results of new weapons and devices of modern war. The six hefty volumes governing the exercise show the thought and labor that prepared this maneuver designed to develop the team play of the logistical services in action. There is no doubt that Logex 57 accomplished its mission, which General W. G. Wyman, commander of CONARC, defined for the participants as follows:

> Traditionally, Logex has served as an outstanding training exercise and has provided a stimulus for logistic thinking throughout the Army.
>
> As our ground combat elements through employment of newly developed weapons become more mobile and hard hitting, it is imperative that a logistic support system, instantly responsive to their needs, be available at the outset of hostilities. Such a system will be made possible only by the teamwork of the Army technical and administrative services backed up by the cohesive efforts of all the Armed Services.
>
> It is my view that Logex 57 will provide you with an opportunity to exercise the knowledge and skills which you have acquired in your training, to develop team-play and to examine established procedures, critically and constructively, with a view toward simplifying them and increasing their efficiency.

I think all observers would agree that the enthusiasm and intelligence that were displayed by the participants are assurance that we will have the capability to move, transport and communicate, and to maintain men and matériel in combat. Logex 57 uncovered deficiencies in organization and procedures. It tried out new ideas in examining the whole logistical support of an army in the field instead of a particular fragment that is the special function of an Army technical or administrative branch or of one of the three services. The presence of the State Department reminded participants that war has political as well as military problems.

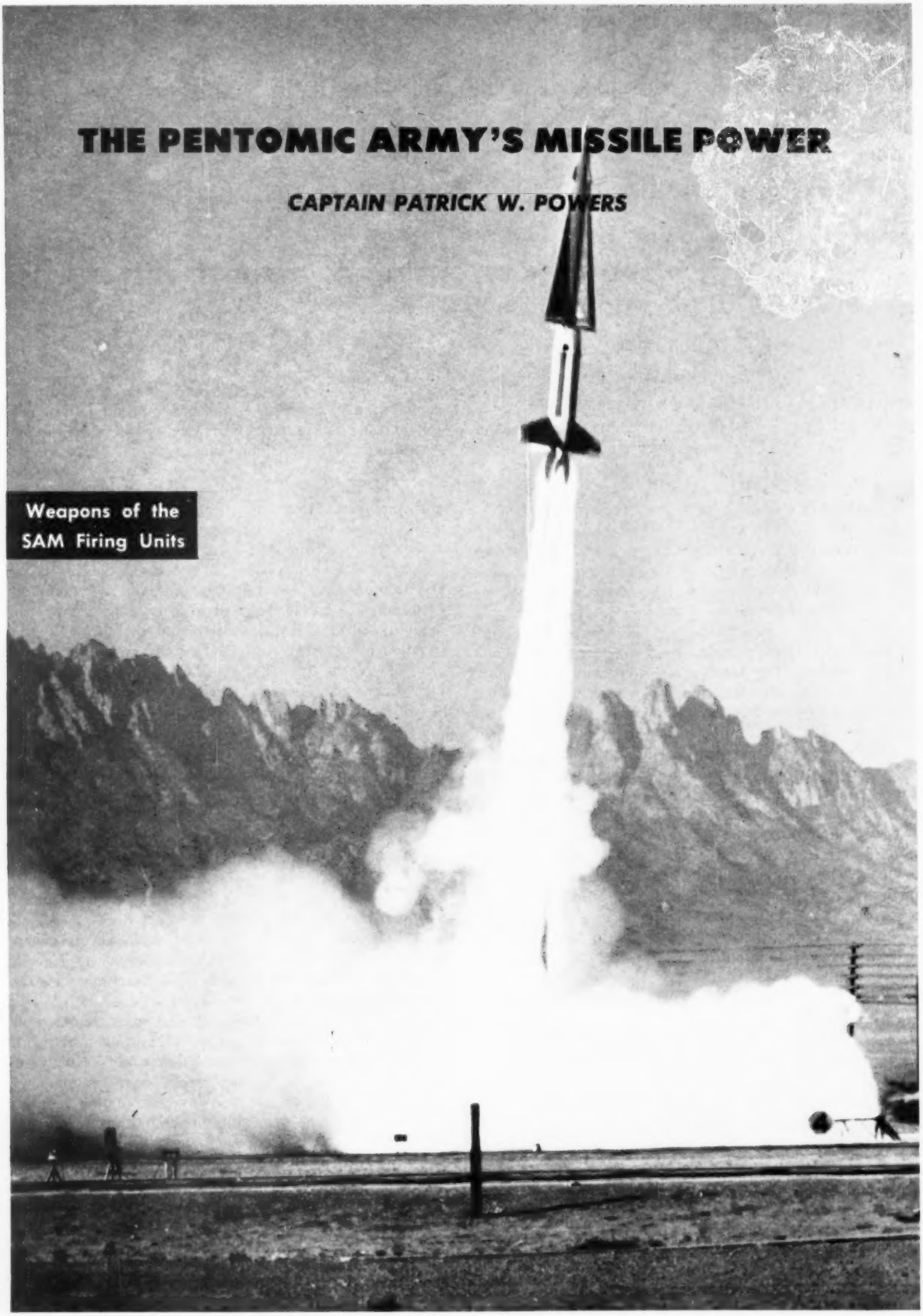
NEAR the end of my thirty-six years of active service I had the rewarding responsibility of commanding the then Army Industrial College (now ICAF). It is very clear to me that had I attended an exercise similar to Logex 57 I would have been better qualified for that position. Looking at Logex 57 from that experience, I must say that it would be very profitable to the Army if more procurement officers (as well as combat arms officers) could participate in one or more of these annual exercises.

In the years between the great wars officers of my generation often talked about the importance of logistics to success in battle, but we only dimly comprehended the magnitude of the problem that burst upon us with World War II. Luckily, we had officers who were able to grow with the magnitude of the responsibilities that were thrust upon them. But I venture that if they could have accompanied me to Logex 57 they would have unanimously agreed that had they had that kind of training in their earlier years, the task of fulfilling the first commandment of Socrates would have been accomplished much more efficiently and economically.

Finally, I think it most unfortunate that the American people and the armed forces themselves know so little about the intra-Army, inter-service cooperation of Logex 57. More effective teamwork for national defense is a most important product of this exercise which shows that in logistics, at least, unification has made and is making enormous strides for greater national security.

THE PENTOMIC ARMY'S MISSILE POWER

CAPTAIN PATRICK W. POWERS



Weapons of the SAM Firing Units

Surface-to-air guided missiles are the most effective protection against modern air assault weapons operating at tremendous altitudes. The greatest problem is that of successful interception of the ICBM

ONLY the surface-to-air guided missile stands between near-supersonic, megaton-loaded enemy bombers and missiles and vital installations and cities of our nation. Antiaircraft guns are not effective at the tremendous altitudes required to intercept modern air assault weapons.

The Army has recently been assigned increased responsibility for air defense by longer ranges and broader coverage for its antiair missiles. These weapons are directed toward the destruction of aircraft of all types, ballistic missiles, and air-supported missiles—anything traveling through space that imperils the continental United States or hinders land combat operations of the U. S. Army or its allies. The need for such missile systems was anticipated more than twelve years ago when research on Nike Ajax began. Its creation resulted in the only operational land-based air-defense system capable of meeting the present air threat.

The surface-to-air program has developed to include all types of targets and more new missiles. In the course of testing, these systems have destroyed while in flight every type of drone, missile, and aircraft that they have been permitted to engage.

The most critical future problem is the defense against the ballistic missile plunging down out of space at a speed in excess of ten thousand miles an hour. The basic Nike system concept and implementation provide a logical, well-balanced step toward the solution of the destruction of this threat. The purpose of this article is to cover this antimissile problem as well as some of the basic principles of operation of the Army's antiair missiles.

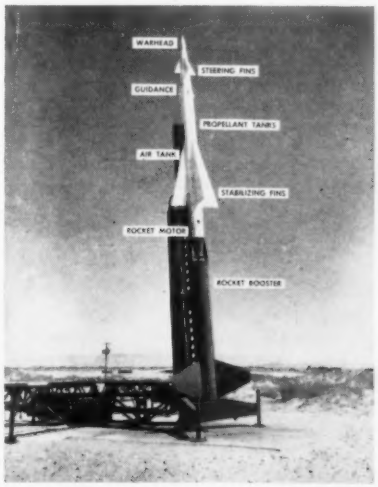
Missions and organization

The Army in executing its antiair function provides surface-to-air missile (SAM) units for the air defense of the continental United States and of U.S. overseas bases and forces. The SAM requirements include land-based antiair missiles for defense against high-, medium- or low-altitude aircraft, drones, and ballistic missiles. Surface-to-air missiles should also have a surface-to-surface role when feasible.

The U. S. Army Air Defense Command is the component which, along with the Air Force and the Navy, forms the Continental Air Defense Command (CONAD). Under CONAD the Army is responsible for point air defense by missiles fired from the ground at targets in the air not more than a hundred miles away. The Air Force is responsible for manned interceptors, area defense, and missile ranges over a hundred miles, the Navy for the sea approaches.

Point defense includes those geographical areas, cities, and vital installations that can be defended by missile units which receive their guidance information from radars located near the launching site. It should also include the responsibility of a ground commander for the air protection of his forces.

Within this roles-and-missions framework, the Army has developed and placed into operation the Nike Ajax missile system designed to combat the medium- and high-altitude bomber in existence today. It is the first weapon in artillery history capable of reaching out to ranges far beyond those of conventional guns to counter a maneuvering target. It is a mobile system to be used either in fixed defense or with the field army.



Components of the Nike Ajax

Nike Hercules is capable of delivering an atomic warhead in air defense. It will be employed primarily to attack and render ineffective with a single warhead a formation of enemy aircraft. It is bigger, faster, has more range, and is more accurate than Ajax. However, both missiles are compatible in a universal Nike defense and will be used side by side on operational sites around the country.

Three other missiles have been announced recently as joining the Army's surface-to-air family. Hawk will afford additional antiair protection. Land-based Talos comes under the jurisdiction of the Army if it is employed by CONAD. The Talos system is similar to Nike Hercules in capability. Finally, Nike Zeus is being studied.

Structure of firing units

The organizations that fire Nike Ajax and Nike Hercules are based on conventional antiaircraft artillery battalion structure. There are normally four firing batteries and a headquarters and headquarters battery. The battalions on site in fixed defense are formed into groups or brigades, that come under regional antiaircraft commands which in turn are directed by the U. S. Army Air Defense Command. In overseas areas, the air defense of the communications zone and the combat zone will normally require clear-cut command lines and distinct separate organizational structure based on battalions, groups and brigades. The field army commander must possess complete authority for the air defense of the combat zone.

The antiair missile battery commander must have sufficient warning of an impending attack to allow his firing elements to be properly prepared. Some of the electronic equipment must be warmed up and given a brief check for proper operation. Full crews must be assembled on the equipment. The responsibility for early warning in the United States belongs to CONAD agencies such as the Semi-Automatic Ground Environment (SAGE) system that reaches out with the long-range radars of the Distant Early Warning (DEW) line and sends this detection information to an antiaircraft operations center (AAOC) where the Missile Master is located. The Missile Master is a complete system for coordinating and directing a large number of missile firing batteries. It ties

together elements of antiair defense from target detection to destruction in order to achieve maximum effectiveness. Information is collected from the SAGE system and other agencies on the location and identity of aircraft or air-supported missiles, presented on electronic screens, and distributed to the firing batteries—all electronically and within fractions of a second. Each battery receives a continuous flow of fresh data on all targets within the defense areas; the battery commander can then make the proper selection of a target to be attacked.

Rocket principles

Most of the antiair missiles are essentially two-stage rockets. The first stage consists of a booster rocket that propels the second or main stage at tremendous speeds through the lower atmosphere until a high altitude is reached. Then the booster rocket motor burns out, the booster drops off, and the main stage or sustainer motor takes over to add more speed to the missile. By combining two rocket stages, more speed is developed with a relatively small missile that must be able to take the large g forces developed by maneuvering at supersonic speeds. In addition, full advantage is taken of high altitudes where the sustainer motor will give better performance.

These two-stage rockets utilize both solid and liquid propellant rocket motors. The burning of the propellant—composed of a fuel and an oxidizer—produces high-temperature, high-pressure gases that are ducted through a nozzle and produce an action force which has as its reaction the force called *thrust*. In Nike Ajax, for example, the booster is a solid propellant rocket of large thrust, and the sustainer motor is a liquid propellant rocket using JP-4 and nitric acid as the fuel and oxidizer.

In contrast to the ballistic missiles, the antiair missiles do not require control of the time of burning of the rocket motors. The maximum amount of energy is needed every time to get the missile through the heavier atmosphere as quickly as possible and drive it toward the target. Both the booster motor and the sustainer motor are allowed to use all of the propellant or *burn out*. The missile then coasts at supersonic speeds to intercept the target. Of course, each separate missile has a maximum range where it no longer has sufficient speed to cope with a maneuvering target. This point is well established and may determine the maximum range capability of the particular system.

Guidance systems

Any guidance system for antiair missiles must develop attitude and path error signals. An autopilot in the missile detects pitch, roll and yaw displacements which are *attitude errors*. If a missile has a displacement from the correct path to the target, then a *path error* exists. This path error is detected by the tracker of the guidance system. The tracker provides the information for the correct path and then an electronic computer determines the corrections which are sent to the missile. The aerodynamic forces developed by the resulting movement of the control surfaces or steering fins cause the missile, when in the heavier atmosphere, to move in attitude and path to correct its position. Outside the atmosphere, control can be maintained by air jets from the missile which force it back on the correct path. Significant forces acting on the missile during its maneuvering trajectory are gravity, thrust, and aerodynamic forces.

Predicting the intercept point is a method of missile "navigation" specifying the path to a kill point based on the target-missile closing velocities, the target velocity, and the missile velocity. The missile is directed to a point on the target's predicted course so that it will arrive there at the same time as the target. Since the point will not be fixed if the target maneuvers, a computer continuously determines a new predicted point for the kill and directs the missile toward each new point in turn.

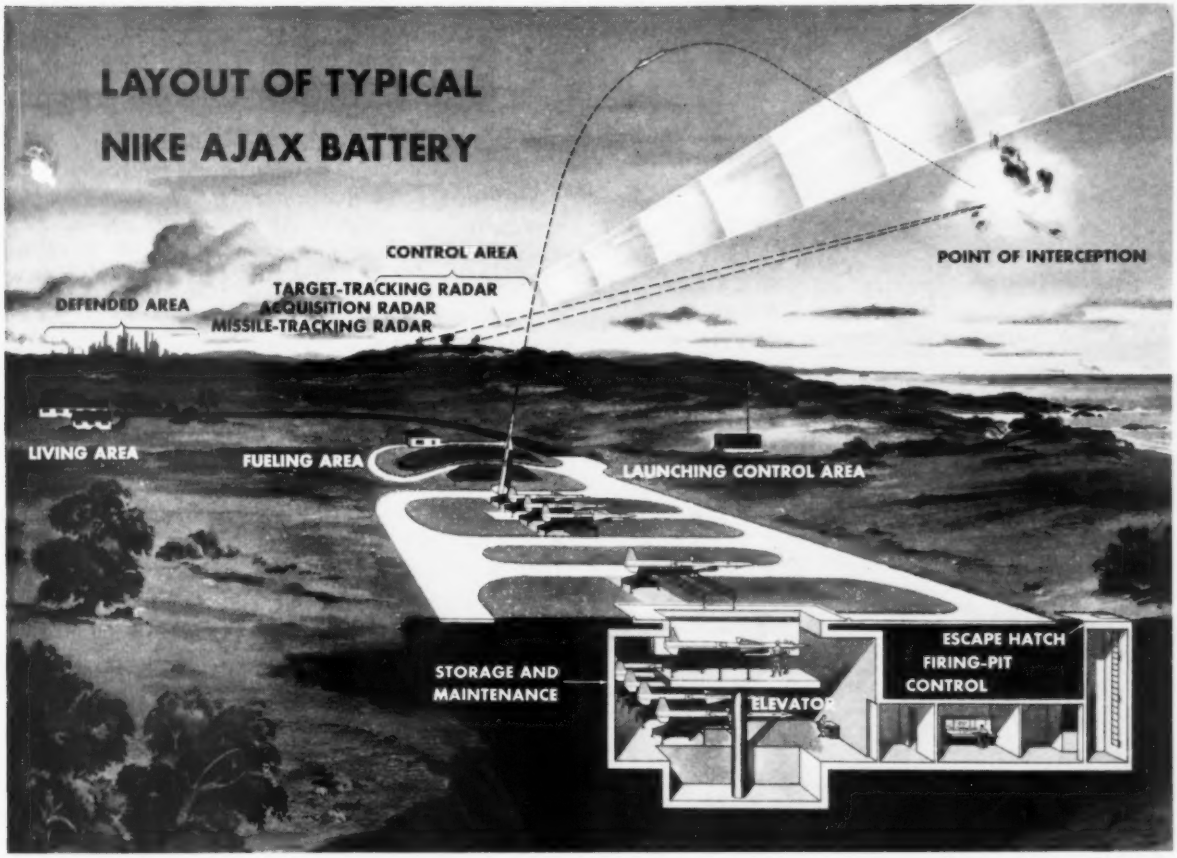
The first of the three basic types of guidance that will be covered is *command guidance*. This type normally employs one radar to track the target while another tracks the missile. The data from these two radars are fed to a computer which corrects the missile's path and transmits commands to the controls in the missile. In this case, the tracker for the system is a radar. Command guidance is used by the Nike Ajax and Nike Hercules systems.

The next type of guidance is the *beam rider*. Two radar beams are normally used, one to track the target and one to guide the missile. The missile automatically centers itself in its radar beam as the other beam follows the target. A computer determines the movement of the missile beam so that the missile will intercept the target.

The last kind of guidance system is *homing*. This is the form of guidance where a device in the missile reacts to some distinguishing characteristic of the target such as radar reflectivity of the surfaces of the target,

ARMY ANTIAIR MISSILES

ROCKET	Type	Organic to	Warhead Capability	Targets	Measurements
NIKE AJAX	Liquid propellant rocket with solid propellant booster	AAA Battalion	Fragmentation	Aircraft; air-supported missiles	Length: 21 ft. Diameter: 1 ft.
NIKE HERCULES	Solid propellant rocket with solid propellant booster	AAA Battalion	Atomic; Fragmentation	Extreme-range aircraft; air-supported missiles	Not available
HAWK	Solid propellant rocket	AAA Battalion	Not available	Low-flying attackers	Length: 16 ft. Diameter: 14 in.
TALOS	Not available	Not available	Not available	Extreme-range aircraft; air-supported missiles	Not available
NIKE ZEUS	Not available	Not available	Not available	Not available	Not available



Courtesy, Western Electric Co.

electronic emissions, or heat emission. A target seeker in the missile is receptive to the kind of energy emitted or reflected from the target. A computer in the missile takes data from the seeker and sends appropriate commands to the steering fins for an intercept.

Nike Ajax

The Nike Ajax guided missile system consists of a two-stage rocket, three radars, an electronic computer, and the necessary control and communications equipment.

The missile itself—actually the second stage of a booster-missile combination—is a liquid propellant rocket about twenty-one feet long, one foot in diameter, and weighing more than half a ton. It consists of a warhead, steering fins, guidance section, propellant tanks for the JP-4 and the nitric acid, an air tank that provides high-pressure air to force the propellants into the rocket motor, stabilizing fins with small movable parts for roll control, and the rocket motor.

The missile is launched at the near vertical by the solid propellant booster. The booster drops off in a few seconds after which the missile's rocket motor begins operation. Then the missile goes through a steep turn to an on-course trajectory. After the motor burns out, the missile coasts supersonically to the target. The over-all trajectory is such as to maintain a speed and maneuverability advantage over the target throughout the engagement. The missile is under the control of its guidance system from the end of boost until intercept.

The radars and the computer form the basic components of the ground guidance equipment for the Nike Ajax command guidance system. One radar is for acquisition of targets designated by the Missile Master, the second tracks the missile, the third tracks the target. Information from the last two radars is fed to the computer concerning the position and velocity of both the target and the missile. Signals are then sent to the fins to move them in the correct direction and amount for a target kill. Any evasive action by the target is detected by the target-tracking radar and this information is sent to the computer. The computer re-evaluates the trajectory of the missile to meet the change of direction, and steering signals are sent to the missile to correct its course. All this occurs in thousandths of a second in a complex electronic system.

Nike Ajax batteries are dispersed around the defended locality in a roughly elliptical pattern and at such a distance from one another that all the air space at maximum range can be reached by at least one battery. At closer ranges, six to eight batteries will cover the air space.

Launching area

To reduce the real-estate requirements of the batteries in the United States, an underground storage system called a *box* is used with a combination elevator-and-launcher supplemented by three aboveground, adjacent or satellite launchers. The launching area contains from three to six boxes, a missile assembly site, and a fueling area. The control area is made up of the three radars, control vans which include the computer, and generators. Troop housing is located within these areas. Safety provisions call for a minimum of forty-three acres for the launch-

Close-up of the Nike Hercules two-stage rocket on the launcher

ing area and eight acres for the control area. The operational requirement of the radars calls for a minimum of three thousand feet between the radars and the launchers.

In order to gain an insight into how a Nike Ajax battalion would function during an actual enemy attack, suppose we become observers as the 28th AAA (Missile) Battalion, stationed in Seattle, Washington, swings into action. (The 28th is the crack outfit that won the first Army-wide competition ever held for antiair guided missile units. During the firing competition, held at the Army's Red Canyon Range Camp in New Mexico, one of the firing units of Battery D scored 2,800 points out of 3,000 to set the record. The Battery has fired seventeen missiles without a single miss.)

Here's what would happen. First reports from the long-range radars on the DEW line indicate a flight of unidentified aircraft coming across the Arctic wastes. As the flight proceeds toward the Seattle area, the battery's control officer of firing unit D-2 follows the action closely. He is responsible for the execution of this fire mission for his fire unit, and he alone makes the final decision to fire. Fresh information on the progress of the flight is continuously fed into his control van.

Battle Stations!

When he is told that an attack is imminent, he orders BATTLE STATIONS! and his troops move rapidly into action. In the control area, full crews man the radar and computing equipment and run through operational checks. The launcher crews raise the previously prepared missiles and boosters to the ground level on the elevators of the underground launchers. These missiles have had propulsion and guidance components tested, the propellants loaded, and the warheads installed. The three satellite launchers with each underground launcher have missiles and boosters placed on them, and final tests and checks are completed.

Still the enemy flight is out of range of everything but the long beam of the acquisition radar. As the target pip appears on the radar scope, the command is flashed from the operations center: ENGAGE! The launching crew scrambles into the underground firing pit and the missiles are erected to their firing positions.

Tension mounts as the time draws near for the battery's control officer to make his decision as to when to fire. Hesitation or confusion might let the target get in too close. The battery control officer subconsciously tries to recall his three-for-three record at Red Canyon and just how he and his crews did it. The battery is placed under its final Red alert status and the missile-tracking radar slews and locks on the first missile to be fired.

FIRE!

As the designated target in the flight approaches the maximum range of the Nike Ajax, the fire control officer pushes the firing button with a determined jab. The two-stage rocket roars off the launcher, hurtling at over a thousand miles an hour up to intercept altitude. In a few seconds the booster burns out and drops off in a gentle arc toward a booster disposal area where it can impact without damage to property or population. The rocket in the missile takes over and adds more speed to the Nike Ajax.

All eyes in the control van are on the plotting board pens, representing the missile and the target, as they approach each other. Everything is carried on automatically now; the operators merely monitor the equipment. They can't think or react this fast. As the pens come together from opposite directions, a cheer goes up in the van, for a hit has been scored. The battery's control officer grins at his assistant and then prepares to launch a second missile at another target in the formation. This scene is repeated in the many control vans in other battalions around the Seattle area as the Missile Master searches the sky for new targets.

This completes a brief observation of an actual attack on a defended area protected by Nike Ajax. The battalions on site around the country are on a twenty-four-hour alert status frequently

punctuated by practice runs on Air Force jet aircraft or, in some cases, by warnings of unidentified planes that so far have always provided their identity before the last possible moment.

Nike Hercules

The Nike Hercules system consists of a two-stage rocket, a booster-missile combination, and the same three radars, computer, and control and communications equipment of Nike Ajax modified into a Nike universal system. These equipment modifications will add to the effectiveness of Nike Ajax; at the same time, such an approach provides Nike Hercules with the use of the same test and maintenance equipment.

The missile is longer, heavier, and more than double the diameter of Nike Ajax. It incorporates a newly developed solid propellant type of sustainer motor that will simplify storage and checkout operations. This trend toward solid propellants for rockets may be applied to many future Army missiles. The booster is larger to accommodate the missile and is made up of a cluster of four of the solid propellant Nike Ajax boosters. It is an all-weather, air-transportable combination.

The scheme of operation of Nike Hercules is again identical to Nike Ajax with some of the newest advances in electronics incorporated into the longer-range radars and the more efficient computer. These advances include simplified monitoring and maintenance of the system by the soldier-operators. The total effect is to provide a missile with more maneuverability at extreme ranges and altitudes and higher velocity to attack the most advanced type of aircraft and air-supported missiles.

Nike Hercules provides a nuclear air defense which is the most effective defense against a mass raid attack. Its warhead will be employed at altitudes where the effect of blast, heat, and radiation on the ground would be negligible. As stored on site and loaded into the missiles, the atomic warheads emit no harmful radiation. However, the problems of troop training to handle these warheads will have to be solved.

The Hawk

The development of a versatile air defense missile system designed to reinforce the low-altitude capability of our air defenses produced the Hawk. This solid propellant missile carries a lethal warhead and is capable of destroying attackers flying at even the lowest altitudes at ranges insuring effective protection of defended areas. It will complement the defense against high-level air attack provided by the Nike.

Hawk is approximately sixteen feet long and fourteen inches in diameter.

The system is capable of operating both in the continental United States air defense complex at fixed installations and with fast moving combat troops of the field army. It may be transported on the highway, using a minimum of vehicles, by helicopter, and by aircraft. Hawk in its mobile role also will be adopted by the U. S. Marine Corps.

Site selection actions for the emplacement of the Hawk have been started in the New York City and Washington-Baltimore areas. While the land requirement for each individual site is relatively small, positioning of the site is comparatively rigid. Only the absolute minimum of land necessary to emplace, operate, and administer the weapon system and to afford safety protection is to be acquired. Each battery will require approximately forty acres for emplacement. To reduce land holding requirements to a minimum and in the interests of safety, underground storage of the missiles is planned.

The Hawk system uses guidance techniques which are unusually successful in hunting down and destroying the attacker. Radars of unique design are highly effective in detecting and tracking the low flyers in the blind zone of conventional radars.

Raytheon Manufacturing Company of Massachusetts is the prime contractor under Army Ordnance for the development of the entire weapon system, with Northrop Aircraft of California as the major sub-contractor.

A production contract for the Hawk has been awarded to Raytheon.

Talos is a Navy-developed missile system that will come under the juris-

The mobile Hawk is designed to shoot down low-level attackers

diction of the Army if used on-site around the nation. The outstanding feature that distinguishes this system is the high degree of automation and complexity that permits a unique handling of mass raids. Talos is presently undergoing research and development tests.

Antimissile problem

The threat of new missile-type weapons during the next decade has set into motion complicated systems to counter them. These weapons are resolved into intercontinental ballistic missiles (ICBM), supersonic aircraft flying in outer space, and glide missiles, manned or unmanned, that approach the ballistic missile in speed and range. The most important of these is undoubtedly the ballistic missile.

The actual antimissile systems that are being developed for defense against ICBM are classified, and no attempt can be made here to discuss them. However, the general problem is well known, and some of the basic difficulties that must be considered can be covered.

The ICBM presents a formidable target. It may travel at speeds in the neighborhood of four miles a second —about twenty-four times the speed of some manned bombers flying today. The problem of obtaining proper information on such a vehicle is very difficult. The high speed of this target can be translated directly into radar range: in order to get ten minutes of warning on a bomber today, 120 miles of radar range is necessary; to get ten minutes of warning on an ICBM, however, about 2,400 miles of radar range is needed.

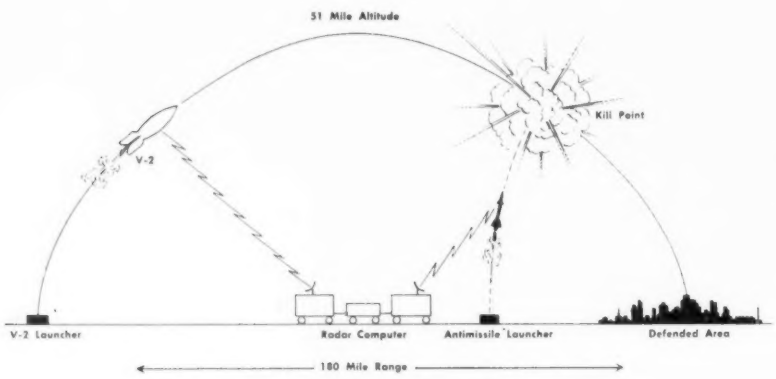
In addition, the target is small, making it a poor radar-reflective surface. It is also a tough target. Its warhead must either be exploded at altitudes sufficient to prevent damage to ground installations or be destroyed so that no nuclear explosion results. This intercept is limited to the terminal phase of the trajectory because early warning at launching is not feasible and altitudes of hundreds of miles would require a prohibitively large antimissile missile.

A high level of defense is necessary because of the possibility of attack with megaton warheads. A point in favor of the defense is that most of the trajectory of the ballistic missile is predictable, from shut-off to atmosphere reentry.

One of the most important factors in such a defense is an early warning system which requires tremendous coordination. Times are very short. Fast action must be taken and everything must be automatic. The soldier-operators can have only veto power; they cannot make decisions. A continuous radar examination must be made of potential launching sites all over the world. On the radar scope, any blip might be an ICBM; screening out meteorites will be a problem. As a result, it will be difficult to keep a twenty-four-hours, seven-days-a-week alert where ten minutes can make a big difference.

The German V-2 missile fired during World War II can be used as an example to illustrate some of the antimissile problems. For a range of 180 miles, V-2 had a ballistic trajectory time of about five minutes. Its velocity varied from 3,300 miles an hour at shut-off to 1,800 miles an hour at impact. A command guidance system would have to be employed if it combined an antimissile missile, radars with a range of fifty miles, and an electronic computer to determine the path of the antimissile missile. This defense would have about one hundred seconds or one third of the total trajectory time to locate and determine the trajectory of V-2 from shut-off to its maximum altitude. Then the antimissile missile would have to be launched for a predicted intercept on the downward leg of the trajectory. With the short time involved, it is no wonder that an active defense against V-2 was considered impossible in 1944 and 1945.

Thus, the solution to the antimissile problem requires an intricate network of tactical control and communications with the success of the defense system hinging on how well it is designed, executed, and operated. The one limiting factor is radar information soon enough and accurate enough so that it can be integrated into a system that functions almost instantaneously and automatically.



Antimissile system for V-2

New developments

The Army must aggressively continue the development of the antiair missile family and, in continuation of this development, acquire an antimissile capability. Gun-type weapons are no longer the answer to the enemy missiles and aircraft that threaten us as they travel through space with fantastic speeds at tremendous altitudes.

The Nike universal guided missile system, utilizing both Nike Ajax and Nike Hercules, will soon see service at the sites already established around the nation and those to be located overseas.

This is the last of three articles that have presented the amazing scope of the Army's missile program. We have covered the missiles of the Pentomic divisions, the Army Missile Commands, and the antiair defenses. From this broad base of missile know-how and experience, the Army can readily expand its weapons development for it knows that the role of the man who fights on land with modern equipment and supported by missiles will be of decisive importance in future combat. As development progresses, reliability of both the missile systems and the soldier-operators who fire them should be increased. At the same time our commanders must learn the full capabilities and limitations of these complex devices for the most effective combat application.

Logistics Jackpot

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. . . WHERE THE FUTURE IS MEASURED IN LIGHT-YEARS!

THE MONTH'S CEREBRATIONS

GIVE IT A CREATIVE SOLUTION

COL. GEORGE B. PICKETT, JR.

HISTORY has been influenced by simple things. Like an egg. You may recall the story of how Columbus, seated at the banquet table with Ferdinand, Isabella, and the grandees of Spain, became so tired of the jibes of the palace favorites that he picked up an egg from the table and, holding it in front of him, asked which of them could make the egg stand on end. They all tried; they all failed. Then Columbus took the egg, cracked the small end of it, and stood it up. Whereupon everyone said, "I could have done that." He looked at them and said, "Yes, but I had to think of it." He could have said more accurately, "but I had to do the *creative* thinking."

The key idea is "creative," not just the thinking of passing judgment or making decisions between ready-made choices, but creative thinking. This term can be understood only by examining the powers of the human mind.

The first power of the mind is the ability to observe and to apply attention. The second is retention: the ability to memorize and to recall. The third is reasoning: the ability to analyze and to judge. The fourth is creation: the product of applied imagination. Creative thought is the ability, through the use of the first four powers, to visualize, foresee, and generate ideas. This is the function of progress; without it we'd still be living in the Stone Age.

Our concepts of employment, tactics, organization, every principle we employ in the military profession, are the result of someone's creative thought. Lincoln, brooding over Lee's military successes, remarked upon how much in war depends on just one master military mind. Many qualities are attributed to men like Napoleon, Caesar, and Lee, but there is one thing they all had in common: a mastery of professional knowledge and the imagination to exploit that knowledge fully.

If imagination is so important, how does one go about using it? Creative thinking is not a difficult and mysterious activity reserved for a few geniuses. It means using our minds in a speculative and reflective manner, searching for alternative solutions, looking for new uses for existing tools and methods. We refine, add to, and alter the known to attain the unknown; above all, we "reason by analogy."

For example, take the replacement problem facing the U. S. Army in Korea in August 1950. By mid-August, the rifle companies in our combat divisions were greatly under strength, yet we had to hold at Pusan and prepare for Inchon. No replacement system existed. The problem was being worked on, but there was no "output" from replacement training centers to replace combat losses in the numbers required. G1 of GHQ also had another problem: ample military manpower in Korea but an extreme shortage of leadership to train and command it. Some staff officer conceived the idea of integrating Koreans into American units as riflemen, gunners, ammo bearers, and the like, thereby combining U. S. leadership with South Korean manpower. Thus was born KATOUSA (Korean Augmentation to U. S. Army) and the replacement problem was solved, the lines held at Pusan, and Inchon turned the tide. This solution was one of necessity; it was simple. But, as with Columbus and the egg, someone had to think of it.

Folklore describes how Newton watched an apple fall to the ground and conceived the principle of specific gravity, and how Archimedes discovered the law of displacement while taking a bath. The truth is, both men had been devoting serious thought to problems with a direct bearing on their theories. Although we may get inspiration in odd places and at odd times, it normally follows serious thought and study on a problem or something closely allied to it. This proves that inspiration in creative thinking doesn't follow routine office or labor-union hours. It may occur at any time, and we should be ready to capture it on paper when it does, for "insight" is never as clear later as at the moment of conception.

However, insight into new and novel ideas can be fostered by certain proven rules. When a group of persons are trying to solve a problem or generate new ideas, there are certain ground rules to follow:

(1) Think big. Remember big ideas produce big actions and an exaggerated idea can be whittled down through analysis more easily than superconservative ideas can be blown up to accomplish big things.

(2) Do not analyze or pass judgment on an idea until everyone in the group has had his say. Enthusiasm for novelty is dampened quickly by a death sentence for the preceding idea. Save judgment until all ideas are in.

(3) Encourage "building on." If someone can add to another man's idea, let him do so. All knowledge is accumulative.

(4) Strive for many ideas. Maybe only two or three out of say forty or fifty will prove worthwhile on evaluation, but you need a great many to insure your winding up with two or three.

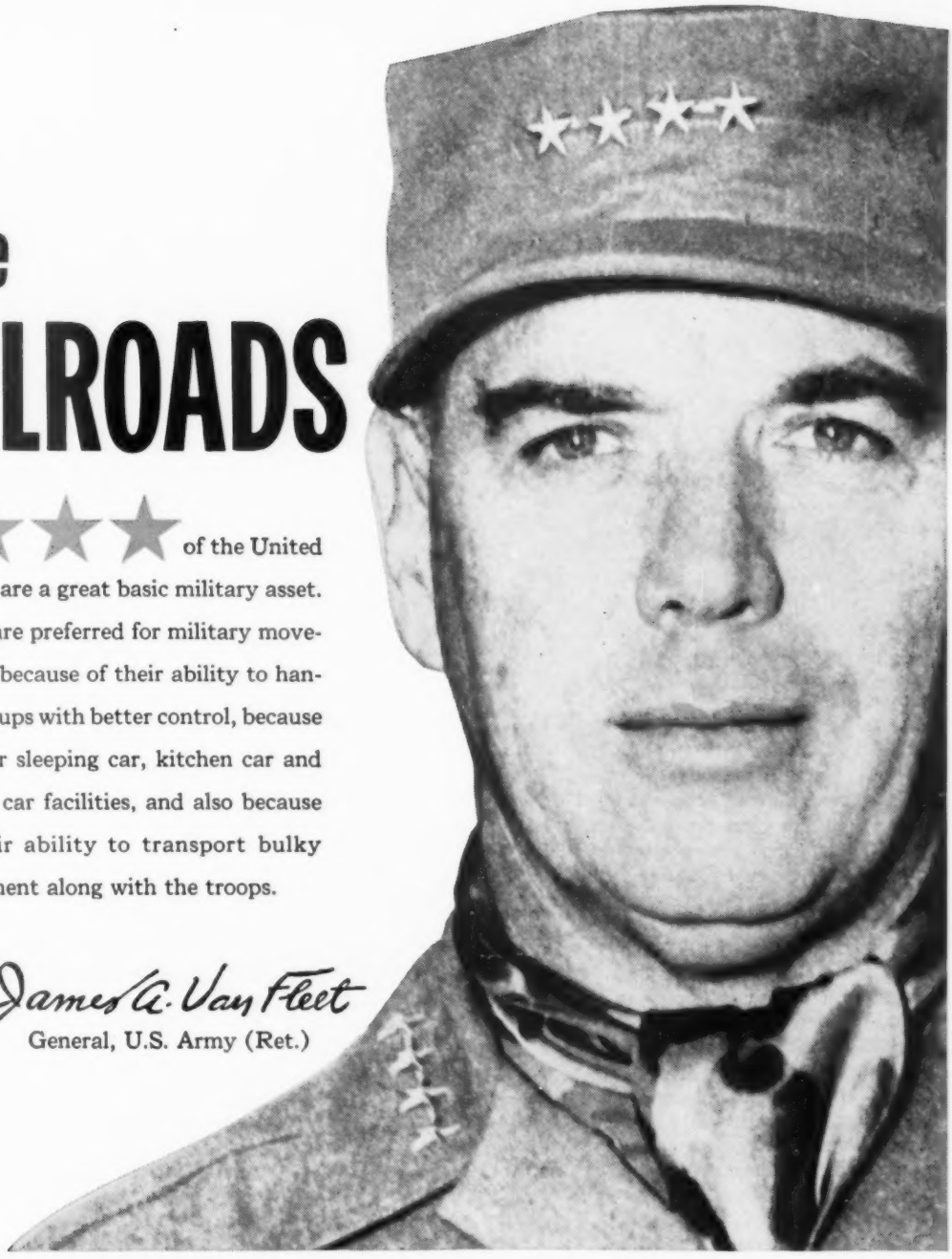
(5) Use "idea words" to stimulate the imagination. If you're speculating

This department is designed to accommodate the short, pithy and good humored expression of ideas—radical and reactionary, new and old. We pay for all contributions published but you deserve to be put on notice that the rate of payment depends upon the originality of the subject and the quality of writing rather than length. This department is hungry for contributions, so shoot that good idea in . . . today.

The RAILROADS

★★★★ of the United States are a great basic military asset. They are preferred for military movements because of their ability to handle groups with better control, because of their sleeping car, kitchen car and dining car facilities, and also because of their ability to transport bulky equipment along with the troops.

James A. Van Fleet
General, U.S. Army (Ret.)



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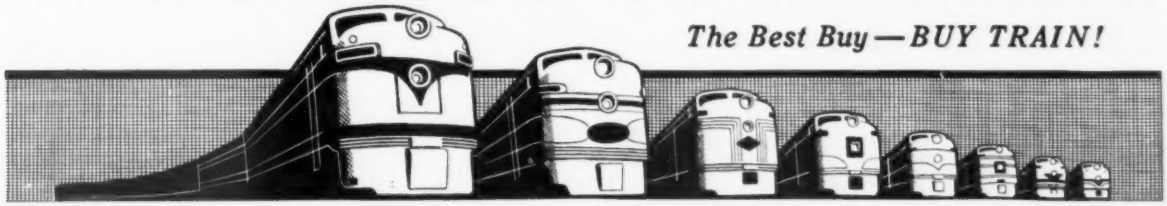

on the future of the military art, start by considering the impact of "form" (tactical geometry), "degree," "procedure," "function," "characteristics," and "new developments."

The same five principles apply when you are alone at your desk. Naturally, before any thought session you must remove mental blocks such as prejudice and previous convictions. Anger and emotionalism breed illogical conclusions. Be open-minded and accept ideas at face value; test them later, of course, before acting on them. To the military planner, feasibility tests, staff studies and estimates, and war games are ready-made tools of the trade to test new and unique ideas and concepts.

However, we must bear in mind, during all our creative speculation, Napoleon's dictum: "The art of war is a definite science in which nothing succeeds which has not been thought out and very closely calculated." In our profession we need two mental tools to accomplish this: professional knowledge *and* creative imagination.

Col. George B. Pickett, Jr., Armor, *served in the 11th and 16th Armored Divisions during World War II, and with armor in Korea. He is a student at the Armed Forces Staff College.*

DOUBTS ABOUT THE REGIMENTAL SYSTEM

MAJOR OLIN C. HARRISON

FOR some time I have been reading articles and directives on the combat arms regimental system like Colonel Schmierer's "Long Live the Regiment" in the April issue of *ARMY*. In the May issue Major Morse in a letter commented most favorably on Colonel Schmierer's stand. However, I still have some doubts as to the value of the system.

Frankly, it appears to me that the expense and trouble of installing and operating the system will be all out of proportion to the hoped-for gain in morale and *esprit*. Further, I believe the confusion resulting from the complicated unit designations made necessary by the system will be frustrating in peacetime and possibly dangerous in wartime.

As I understand it, every soldier and every unit in the combat arms will be "assigned" to a regiment. These regiments will be somewhat nebulous. Although they will have headquarters, rosters and records (mainly histories), they will not be active units in the commonly accepted sense of the word. Their components will be parts of active units which have no connection with the regiments. Thus, a tank battalion of the 1st Armored Division and another of the 2d Armored Division might both be in the 32d Armor Regiment; a battle group of the 3d Infantry Division and another of the 8th Infantry Division might both be in the 1st Infantry Regiment.

The theory seems to be that the morale and *esprit de corps* of these battalions, battle groups, and the like, and of the soldiers within them, will be greatly improved by reason of their identification with one of these historic regiments. Here is where I get lost. I can't bring myself to believe that a half of one per cent increase in any favorable area, psychological or otherwise, will result from establishment of the system.

Now, I'm certainly not going to say that morale and *esprit* aren't vitally important, and that great effort and expense in enhancing them aren't justified. I just don't believe the system is the answer.

We constantly seek high morale, and pride in unit is a factor for inducing it. In my opinion, *esprit de corps* is based about ninety per cent on what our unit is at the time we belong to it, ten per cent on what it has been in the past. Of course this will vary with different people, depending on what Colonel Schmierer terms the "sentimentalist" tendency of the individual. But I feel that my ninety-to-ten ratio is a fair average.

Further I believe that pride in unit must logically develop right up through channels, not jump from battalion to some never-seen regiment. To insist that pride in unit be concentrated at regimental level seems unrealistic. I am quite proud of my World War II outfit, but my pride is primarily concentrated at division level, and it seems to me that is the normal reaction of most soldiers (the May *ARMY* lists 25 division reunions, no regimental). But if I were in that division today, with the system in effect, it appears I would be expected to base my pride on my battle group and on the regiment to which it belongs. What the battle group next to mine does should not interest me from the standpoint of *esprit de corps*, unless it belongs to my regiment. Instead, I am supposed to be thrilled by the exploits of some battle group in another theater, simply because it is a part of my regiment.

A psychological discussion like this could be prolonged indefinitely, with many examples. The point is that I don't see why the introduction of an essentially artificial element into the unit designation is going to have an appreciable effect on the pride in unit of an appreciable number of soldiers. I believe a unit's activities should become a part of the exploits of the active unit in which it is operating at the time. I see no value in dividing allegiance between division and regiment, when the two have no connection. Suppose a division conducts a highly successful action. Is the division commander going to be happy to hear the men of one battalion say, "Boy, we really put that one over, just like men of the good old Umpteenth Regiment always do?"

The system appears to me to have several tangible disadvantages. If regiments are to have any effect, a considerable amount of time, effort and expense will be required to maintain their records, disseminate information about them, and so on. I have read nothing about how the regimental headquarters will operate or what it is supposed to do, and so cannot comment specifically on this aspect of the system.

I wonder how it is going to be economically and efficiently possible to insure that soldiers are constantly assigned to units in their particular regiment. This would seem to apply especially to soldiers—and there are plenty of them—who rotate between TOE units and TD units (or TOE units above regimental level). Maybe that isn't important, though it would seem to be if the system is valid.

Finally, there is the matter of the cumbersome, confusing designations required to identify units—designations that might well create dangerous confusion in combat. Heretofore, in an armored division, you could say, "The 21st needs artillery support," with al-

U. S. Army Photo

AA Fire Control System T50 mounted on "Duster", the Army's twin 40mm self-propelled vehicle M42. This is a major advance in control of fire for this weapon.

FRANKFORD ARSENAL IS ARMY'S CENTER FOR ORDNANCE WEAPONS FIRE CONTROL SYSTEMS

This "Old Line" Arsenal in Philadelphia is a key member of the Army-Ordnance-Industry team. Since World War II it has been rapidly converting from a manufacturing installation to a research and development center responsible for national direction or major support of Ordnance ammunition and weapons programs, chemical, metallurgical, and ballistic research, and gage design and supply.

The major operating organizations of Frankford are the Pitman-Dunn Laboratories Group, the Ammunition Group, the Gage Laboratory, and the Fire Control Instrument Group. The latter is a small arsenal in itself, consisting of research and development, industrial procurement and production, and field service elements. Working with weapons systems contractors in private industry, its scientists and engineers have been responsible for successful application of optical range finders to tanks, for the Skysweeper AA System and the AA Fire Control System M33. Today, Frankford maintains close relations with the Army Ballistic Missile Agency and Redstone Arsenal for the solution of guidance problems. Recently this group has applied radar ranging to the twin 40mm self-propelled light AA gun, the "Duster", enlarging this weapon's capabilities for dealing with high-speed, low flying aircraft.

That segment of industry interested in fire control instruments, ammunition components, and recoilless weapons relies for definition of the problem, and allocations of programs, on Frankford Arsenal, whose goal has been defined as Total Technical Teamwork.

This is one of a series of ads on the technical activities of the Department of Defense.

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most complete assurance of understanding. Under the new system, where there might well be two battalions with the same number in the same division, it will be necessary to say, "The 2d Battalion of the 32d Armor needs artillery support." Everyone concerned will still have to be certain he knows which 2d Battalion is a part of the 32d Armor. The mental processes involved in identifying units will be greatly complicated, the danger of error will be multiplied, and the amount of time and space required to write an order will be increased. Again, the artificial nature of the regimental element of the designation is emphasized.

We can and should be very proud of the history of our regiments. But apparently the regiment has no place in the efficient organization of our present-day divisions. Then why complicate our setup by inserting regiments on an artificial basis? Progress almost always eliminates units, methods and the material means for which many of us have a sentimental attachment. The United States has grown strong because it has emphasized progress and not allowed sentiment to impede it. Let's remember the glories of the past but not cling to them so that we cannot grasp every opportunity to build a more glorious present and future.

Major Olin C. Harrison, Armor, *is on the staff of the Department of Non-Resident Instruction, U. S. Army Armor School.*

MAIL-ORDER JUMP COURSE

CAPT. EDWARD D. BROWN, JR.

WHAT do you think of a do-it-yourself correspondence jump course covering as much of the sit-down instruction as possible; complete physical training instructions and standards; and best of all, orders for two action-packed weeks at the Airborne School, during which you would actually make jumps and earn a parachutist's rating?

This commercial may seem a bit exaggerated, but if we are to have a real ready reserve for a truly mobile army, Army Reservists and Guardsmen should have a way to go airborne with no more time away from home than the usual fifteen days. The current airborne course takes five weeks, but that's too long for the average Tuesday-nighter.

The correspondence course might work.

First, put all the theory, history and other strictly classroom material into it.

Parachuting demands top physical condition, and building bodies to withstand the jolts of jumping cuts a good deal of time out of the training schedule. With determination, however, much of this training can be done before the student leaves home. Send him material describing the proper exercises, a schedule, and a set of standards. Before he gets orders to report to school, the student would have satisfactorily completed the correspondence course and demonstrated to his unit advisor his ability to perform the required number of good push-ups, squat jumps or whatever it is the school requires. Of course, the advisor's certificate attesting to the student's proficiency would accompany any application for active training at the school.

There is much more to be said for spreading airborne training throughout all Army components, and we need not go into it here. While my plan is not as desirable as taking the entire resident course, it offers a decent compromise for reservists and Guardsmen who want to stay truly ready, and an army that wants to stay truly mobile.

Captain Edward D. Brown, Jr., Artillery, *USAR, was a rifle-squad leader in the 134th Infantry, 35th Division, during World War II. His present USAR assignment is with First U. S. Army Headquarters.*

ORGANIZATION FOR FUTURE INFORMATION

MAJOR HUGH G. ELBOT

THE concept of small combat units operating semi-independently of larger headquarters in future war must be paralleled by similar concepts in the war for the minds of men.

This is already taken into account in tactical and technical training of small units, yet this is not enough. Operational independence of small units must be extended to the performance of the three communications services presently in existence in the armed forces:

(1) communications to the civilian home front (public information);

(2) communications to our own troops (troop information); and

(3) communications to the enemy (psychological warfare).

All these operations will have to be planned, initiated, executed and completed in the small unit proper, be it a division, a combat team, a battalion or even a company.

Because units will be isolated, spread out over huge areas and expected to fight independently, the home front will want to know fast what has become of "Lost Battalion X." Therefore, a press release will have to originate directly in the battalion with all regulations of security press censorship applied in detail. The soldiers of battalion X will want to know what is happening in neighboring units, in other sectors, on other fronts, at home, and also in the enemy country. Moreover, enemy propaganda directed at them in the front lines must be struck down by exposure. Therefore, both news and analysis of the news will have to be supplied in the battalion proper and at once, according to the sound principle "nothing is so old as yesterday's newspaper."

The battalion likewise will be compelled to direct its own psychological warfare efforts to the enemy unit on its front. This effort will be based on intelligence collected from POWs and deserters. It will cover vulnerabilities of local enemy commanders, weaknesses of enemy troops and insufficiencies of enemy supplies. A study of captured German records discloses that German propaganda on the Russian front during World War II was most effective when it concerned itself with local issues, not with national or ideological over-all issues, for instance, friction between various nationalities in a Red Army unit, hatred against Commissar X, drunkenness of Commander Y, poor quality of bread, and so on. Therefore, leaflets, surrender passes,

AROUND THE WORLD WITH SIKORSKY HELICOPTERS

RUGGED OPERATOR—Unloading a jeep in rough terrain, this Marine Corps Sikorsky S-56 shows its usefulness under field conditions during Fleet Introduction flights at Quantico. The Marine Corps has organized its first S-56 squadron, HMR (M)-461, at New River, N. C. The big, twin-engined S-56, which can carry 26 men and their gear, is flown as the HR2S-1 by the Marine Corps and as the H-37 by the Army.

THE OLD AND THE NEW—One of the last of the Army's mules and its rider from the 35th Q M Co. (Pack) meets a Sikorsky S-58 (Army H-34) bringing in rations during maneuvers near Camp Hale, Colo. The Army has announced deactivation of mule-equipped units and the creation of new helicopter companies.

MATERNITY MISSION—Racing the stork, a U. S. Air Force Sikorsky H-19 based at Prestwick, Scotland, flew a critically ill expectant mother from the isolated Isle of Arran across the Firth of Clyde to a hospital normally eight hours away by boat. The mother recovered; the baby girl weighed 8½ pounds.

loudspeaker activities, and posters will have to originate in the small unit proper if their use is to be effective.

Higher headquarters can support these three functions by supplying facts and figures from the rear by electronic means. Operational utilization of such facts and figures, in addition to material from captured enemy sources, will be the responsibility of the small unit.

Because of the tremendous requirements of manpower for fighting purposes, a small combat unit engaged in combat operations can have only a small cadre for execution of these three functions. Qualifications of such cadre would include writing experience, knowledge of communications media, of world events, historical and sociological background and rudimentary knowledge of the enemy.

On the basis of what I have outlined here, I impose the following suggestions:

(1) A special table of organization for wartime purposes be set up that would establish slots for information personnel (combining all three functions). They would be filled by junior officers in companies and battalions and by field-grade officers in regiments, combat teams and divisions. There would also be a pool of specially qualified senior noncommissioned officers as assistants.

(2) A special table of equipment would supply small units with special, lightweight "truth kits" containing microphones and other communications equipment, "pocket" typewriters and reproduction equipment.

(3) Coordinated training of specially selected student officers and noncommissioned officers be started in all three functions by the Chiefs of Information and Special Warfare. This implies that present personnel of any of the two branches involved, both active and reserve, would undergo training in the other branch.

(4) The entire program should cover all three services and should be coordinated on a Department of Defense level.

Major Hugh G. Elbot, *USAR, entered the Army in 1941 and was commissioned in 1943. He was a press and radio censor for SHAEF in London and Paris. Last winter he wrote a report on the Military Assistance Program for the Senate's Foreign Relations Committee. He is now attending a course at the U. S. Army Information School.*

EVOLUTION OF STAFF RANK

CAPT. CARL M. GUELZO

AT some point in the far distant past a tribal leader, flushed from the heat of battle, leaned on his spear and remarked to his chief lieutenant: "Hell, any good sergeant can run the smoke-puff message section!"

However, as warfare became more complex and the value of a competent staff was realized, chiefs of staff sections were given higher rank and increased importance. The untimely invention of paper and other allied instruments of communication and record accelerated the development of the staff section.

The sergeant was reduced to a small cog in an intricate staff machine first headed by a lieutenant, then a captain, and finally a major. Except for a few incorrigibles, everyone now seemed satisfied with staff section organization. Never resting, these dissidents devised a plan, the insidious consequences of which even they could not foresee.

"We're tired," they confided among themselves, "of all this friendly cooperation. Let's slip a lieutenant colonel in as chief of our section and watch the others squirm."

The others did squirm. When the initial weeping, wailing and gnashing of teeth had died away, all other sections—donning sackcloth and ashes—bemoaned the passing of the familiar "George, I have a little note here . . ."; "By the way, Sam, I wonder if you could clarify . . ."; "Hi, Jack, how's the wife and kids? Say, I just happen to have on my desk a letter you might be able to help me with . . . ."

In self-defense, a protective band was organized, decisions made, and soon each staff section, large and small, sported a lieutenant colonel as chief—some bright and new, others well worn but sturdy.

Before long, a small group of individualists in a dark corner of a musty room conceived a monstrous plot: "We've had enough of this informal communication-between-staff-sections stuff. Let's ring in a bird colonel and crush the reactionary opposition."

A great cry of anguish arose immediately from the headquarters in which this dastardly plot was consummated, followed by a growing roar as hundreds of busy clerks leafed frantically through piles of TOEs and personnel authorizations. Soon after, through dint of much research, earnest conversation, and extensive elbow-bending and buttonholing, full colonels were installed as staff section chiefs.

But satisfaction was not forthcoming, for a few misguided persons with nothing more profitable to do than work crossword puzzles, read newspapers, and quaff great swigs of coffee, congregated unobserved one day to bemoan their fate.

"I'm sick of these bird colonels running around pulling dates of rank on one another," moaned one.

"Our operation," chimed in another, "is big enough to warrant a little judicious expansion."

Said a third, in a cautious whisper: "Let's get a brigadier general as *our* section chief."

That did it. Soon a one-starred flag adorned the office of this section. Wailing of injustice, other sections promptly countered with endless reams of personnel justifications and requisitions. Huge files of qualification cards were carefully searched to cull out any stray brigadier qualified for staff duty. Success, of course, crowned these mighty efforts.

I have belabored the obvious in showing the trend.

Ultimately, certain enterprising people, willing to take the calculated risk, will heave a few well-aimed A- or H-bombs. Then what? Well, at some auspicious moment in the far-distant future, a troop commander will lean on his spear and remark to his aide: "Hell, any good sergeant can run the smoke-puff message section!"

Captain Carl M. Guelzo, Transportation Corps, *enlisted in the Army in 1942, served with the artillery in Korea, and the Transportation Corps in Japan. He is now a special assistant to the Executive Director, Military Traffic Management Agency.*

THRIFTY TOM

Simple device makes it possible to fire 60mm mortar shell in 81mm mortar without modification of standard procedures

LIEUTENANT CLEVE CUNNINGHAM

The designer shows how the Thrifty Tom subcaliber device fits into the barrel of the 81mm mortar

THRIFT and ingenuity are combined in an inexpensive subcaliber device designed by Major Charles H. Reidenbaugh, 35th Infantry, to enable mortarmen to train with the 81mm, yet fire the less expensive 60mm shell. Thrifty Tom converts an 81mm mortar into one that fires a 60mm projectile, in less than five minutes, ready to fire all authorized charges safely without modifying standard firing procedures.

Major Reidenbaugh's device consists of a 60 mortar barrel, three positioning rings, a shock cap, a filler block, and an extraction rod (*see drawing*).

The filler block, with shock cap attached by three No. 10 2½-inch wood screws, is placed in the 81 barrel (*see cut*). The 60 barrel, encircled by the three positioning rings spaced at top, middle and bottom, is inserted into the bore of the 81. Thrifty Tom is ready to fire.

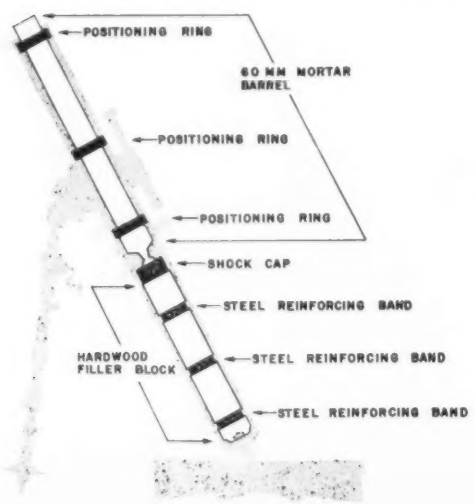
The filler block should be of close-grained hardwood. Honduran mahogany proved quite satisfactory. Because the block makes up for the difference in length between 60 and 81 barrels, it is 18¼ inches long and 81mm in diameter. The block's base end is shaped to fit the 81 barrel base cap. Three grooves, ¾ inch wide and ¼ inch deep, equally spaced the length of the block, afford greater tensile protection against the shocks of repeated firing. Bands of ¾-inch steel reinforcing are strapped into these grooves. One of Thrifty Tom's weaknesses lies in the fact that the wooden block, having become swollen during damp weather, cannot be inserted into the barrel. This could be overcome by weatherproofing with varnish. No difficulty was met when the block was left in the barrel in bad weather.

The shock cap, machined from aluminum, 75mm in diameter and 1¼ inches long, has a ball socket 45mm in diameter and 22½mm long, centered in it. This socket accommodates half of the 60 barrel bearing ball. Clearance tolerance of 6mm between outside dimensions of the cap and inside dimensions of the 81mm barrel protects the cap from fracturing under stress of firing. This slight clearance makes it almost impossible for a fractured cap to jam.

The cap is secured to the filler block by holes tapped at 0, 120 and 240 degrees through the ends to permit three No. 10 2½-inch wood screws to go through the cap and 1¼ inch into the block.

For easy extraction of the filler block and shock cap, the cap is centrally tapped and threaded to take a ½-inch steel extractor rod.

How device fits in barrel of 81mm mortar



THE three machined aluminum positioning rings adjust the diameter differences between the inserted exterior of the 60 barrel and the interior of the 81. These rings are 81mm outside, with the inside carefully tooled to a diameter of 68mm; they are ¾ inch wide, tapped at 0, 120 and 240 degrees to take a common machined set-screw. Adjustment of screws friction-binds rings to the 60 barrel's exterior.

The extraction rod is 34 inches long, ½ inch thick, and threaded at one end to fit the tap threaded into the shock cap.

Thrifty Tom costs less than four dollars. Parts can be turned by any good machinist.

Lieutenant Cleve Cunningham, *Infantry,* was recently commissioned from OCS and is on duty at Fort Gordon, Ga. While serving as a sergeant with the 25th Division in Korea he contributed "Improvised Illumination" to the February 1953 issue.

Electronics Geared to Pentomic Tactics

Lt. Col. Gerald P. Lerner

AS WE PREPARE for the future uncertainty of nucleonic warfare, the Army today is blazing new trails of startling importance in communications and electronics. To complement the voice of command, we must be able almost *instantaneously* to collect, compute, process, store, make decisions, and transmit vast amounts of data for personnel and logistics as well as battle area surveillance and fire control.

It's an enormous task, because of the volume of information, wide diversification of data sources and the brief amount of allowable time.

Electronic Data Processing Systems

But it can be done—with appropriate arrangements of electronic equipments known as EDPS, or *Electronic Data Processing Systems.*

The heart of any EDPS is an electronic computer. Essentially a lightning-fast calculator, it is an arithmetical and logical device that can receive, store, compare, process, make routine decisions based on established command procedures, and transmit required information—all at electronic speeds. Associated with the computer is an automatic switching unit capable of interconnecting the computer with mobile input-output devices at other locations.

An input-output device is the electro-human link which permits us to enter new data into the EDPS, and also receive data from the computer or central processing unit. There are many types of input-output devices—depending upon the kind of data or information being transmitted to or received from the computer and whether it is located in forward combat units or rear areas. Data may be visual—like television pictures, facsimile, or still pictures. Or data may be a series or sequence of electronic impulses—such as radar information and control signals. Messages, meteorological data, personnel records, finance information—these are but a few of the many types of information that can be handled by an EDPS.

High-speed operation

Data can be fed into the system at speeds varying from 325 characters *per second* to as many as 56,000 characters *per second.* Data can be transmitted by printing on typewriters from eight to ten characters per second, stored by the computer, and later received by high-speed input-output devices at the rate of 56,000 characters per second. Using reels of magnetic tape to increase the storage capacity of the central processing unit of EDPS, reels can store up to 25 million digits or characters—and many reels can be used to further increase the storage capacity. These reels can be searched electronically for specific information in minutes.

New electronics systems will provide us with lightning-fast communications and intelligence on the atomic battlefield

Radar mortar locator, AN/MPQ-10

Lieutenant Colonel Gerald P. Lerner, *Signal Corps,* a graduate of the University of Illinois in electrical engineering, also attended Harvard Graduate School of Business Administration. He entered the Army in December 1940, and during World War II was signal liaison officer with the Chinese Eighth Army; in Korea he was signal officer of I Corps during Big Switch and Comeback.

The computer can perform any or all of the four basic arithmetic processes—addition, subtraction, multiplication, division—up to speeds of over 50,000 operations *per minute*, all automatically.

Any computer or central processing unit may be connected to another unit—thus permitting a network of interconnected units between widely separated points.

Present Use of EDPS

Its high operating speed and extreme versatility make the EDPS useful in many military applications—in direct support of combat operations, and for administrative and logistical support.

For fire control, an Electronic Data Processing System provides gun-direction data based on information supplied by radar. Another type of system is used with the radar mortar locator, the AN/MPQ-10.

Air defense systems—such as Missile Master or the AN/FSG-1—depend on EDPS for rapid interpretation of collected data, and for directing missiles and aircraft on interception missions.

The Rawin set AN/GMD-1 transmits data which are received and computed by an EDPS to provide meteorological information.

To assure greater accuracy in its maps, an electronic computer is used by the Army Map Service of the Corps of Engineers.

Other types of data-processing equipment are used by the Army ballistics and munitions tests, and research and development of new weapons and equipment.

For personnel and administrative support the Army will use EDPS for world-wide strength reports of personnel, and for fiscal and other operations. For logistical support, elaborate commercial systems can be adapted for supply control, stock management, and similar work.

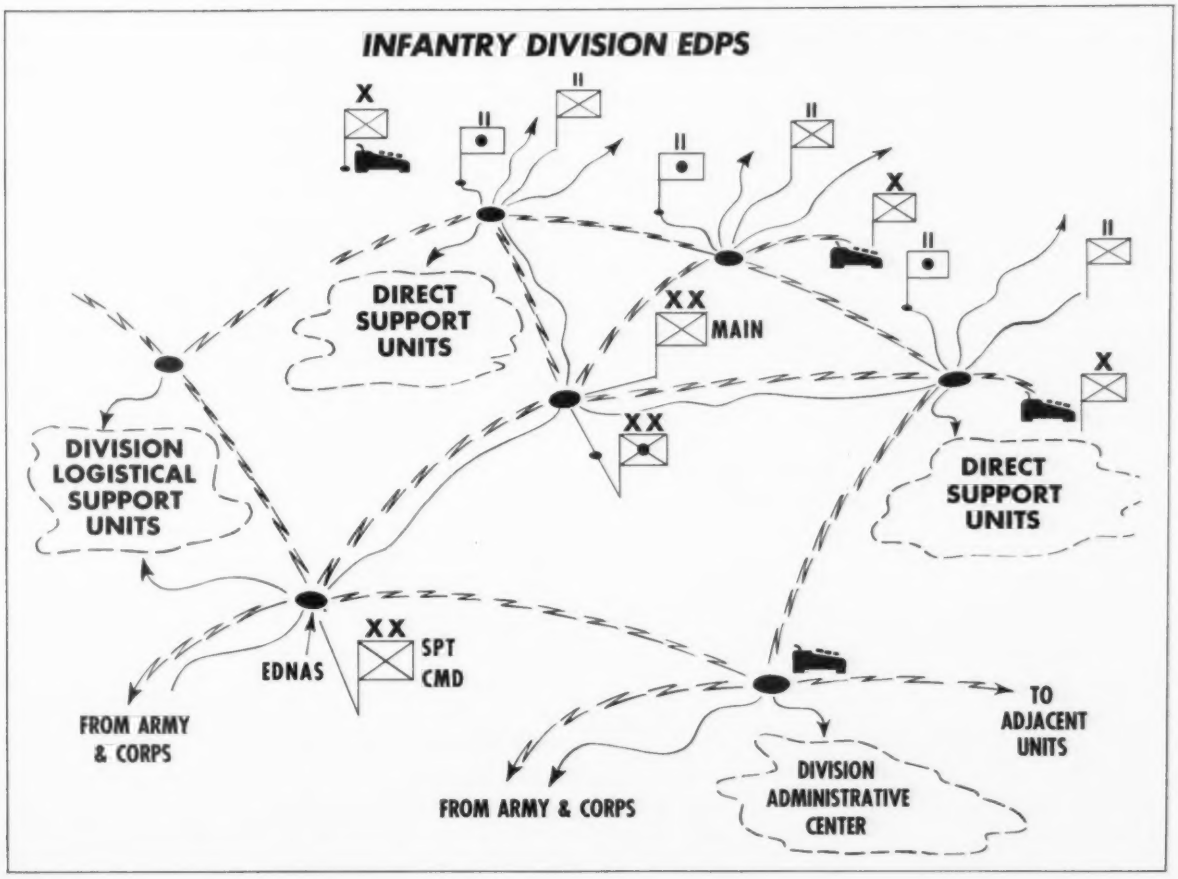
Wide-open future

These are but a few of the known facets of EDPS. Other applications are being developed, and every new application is a giant step toward simplifying and improving our combat, administrative and logistical techniques—making the Army more mobile, more flexible, and more capable.

An EDPS provides a field commander and his staff with more immediate information and intelligence than would otherwise be possible. It eliminates much routine administrative work and day-to-day drudgery—thus releasing men for combat. Other personnel associated with the computer will be displaced to the rear, leaving the combat zone to the fighting soldier.

Despite dispersion of forces and isolation of units of the

Electronic consoles, similar to these radar entry consoles, are the heart of the Missile Master system. Here, operators use photoelectric light guns placed against screens to enter targets into the electronic tracking system.



Army of the future, EDPS will provide important links of information and data—accurately, and with the speed of light.

Particularly for tactical or combat operations—with which this article is concerned—the development of NED (network for electronically processed data) systems will truly give a new look to the Army of the future.

To glimpse that future, let's look ahead ten or fifteen years and see how EDPS can be used in tactical operations, in actual combat.

Division Operational NED

It's an early fall day, a decade or so from now, in an overseas theater. The time: 0530. An hour ago units of the 2d Division were airlifted and landed in a deep penetration of the enemy rear area. Supporting elements followed by helicopter. By now, the tactical command post echelon has moved into position—with the commander and his staff—in the area of the rear combat group.

First radio circuits of the division grid communication system are quickly installed and operating—as the tactical command post is linked to division main and direct support units, and then to logistical support units (*see chart, this page*). As additional circuits and trunks of the grid communication system become operative, a division NED comes into existence, utilizing circuits of the division grid. Appropriate NED equipment is installed at command posts, headquarters of direct support units, logistical support units, division administrative center, support command, and other elements of the division. Links with corps and army elements are made via the army grid.

In forward areas, such as the division tactical command post, any of several types of input-output devices may be used. Most common is a page-printing device like a portable teletypewriter, but capable of very-high-speed operation. Another device transmits and receives graphs, charts, maps, and similar data. A screen-projection device provides data on a television-type screen (*see chart, next page*).

The division NED links all combat groups with the division commander and staff, and this is part of the NED system of First Army, which includes the airlifted 2d Division.

Since this is a war of speed and mobility, action takes place quickly, utilizing every capability of the division NED and the army NED.

Immediate intelligence

By 0600, most of the forward elements of the division

NED are in operation. By page printer, it's announced that the division has fired two atomic missiles on targets of concentrated enemy troops. This is soon followed on NED by estimated damage reports and a visual report via airborne TV cameras over the enemy target areas. Radar data showing information of the damaged area are also being received simultaneously and displayed on appropriate output equipment.

While this is going on, the division NED is being queried by the operations officer of the right-flank combat group as to the status of a preplanned close support surface-to-surface missile strike. Through linkage with the army NED, the query is relayed instantaneously to the missile support unit participating in the assault. Over the same system, the reply is returned that the missile support unit was air-landed at 0605 and missiles can be expected on target at approximately 0625.

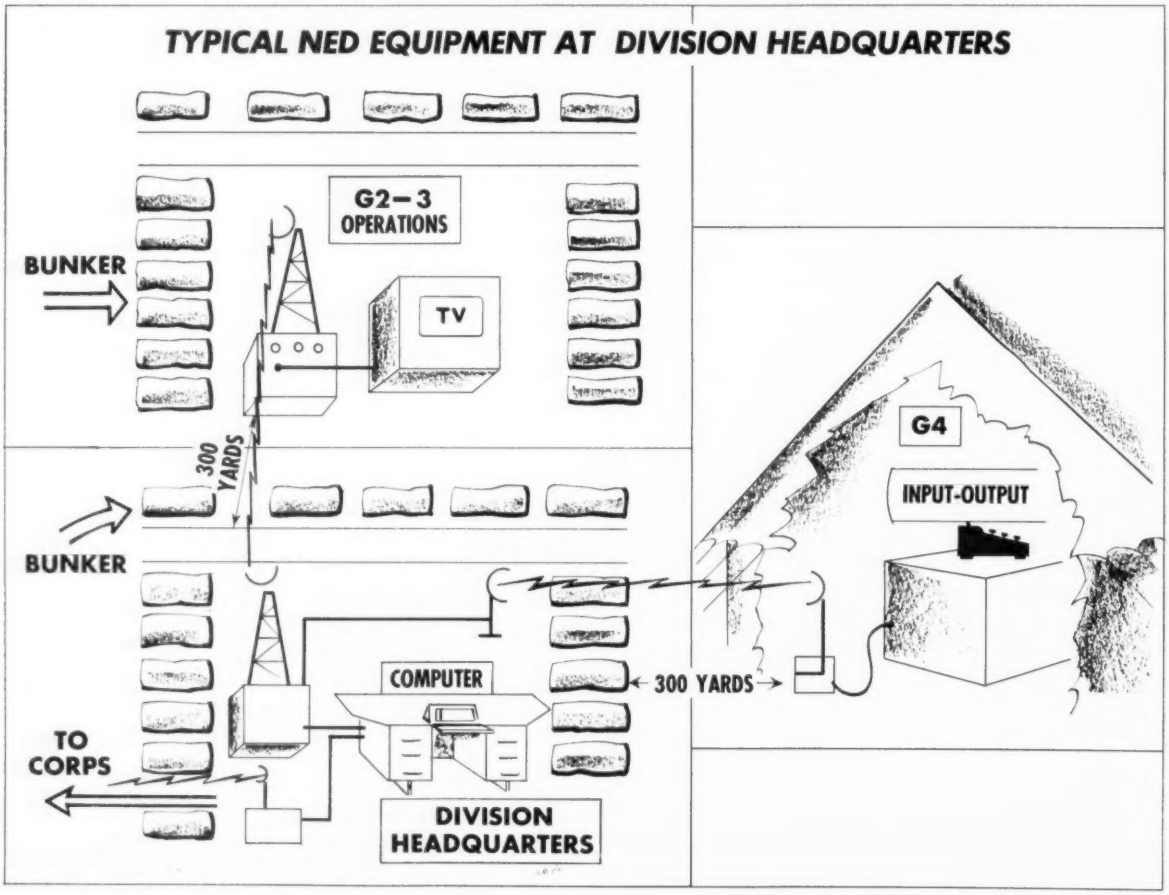
Supplies are important, even in the first few minutes of a major operation. The support command queries the center combat group command—via NED—as to whether the preplanned airlift of POL is required now or is to be delayed. The reply is immediate: delay shipment for two hours.

At 0620, the right-flank combat group queries the support command for replenishment of its basic load of ammunition. At the same time, coordinates, landmarks and weather conditions over the drop zone are transmitted over the division NED to the support command. Since this combat group is conducting the main effort, the request is approved by the division commander.

At 0625, television screens and other visual output devices of the NED are reporting the estimated damage done by the close support surface-to-surface missile strike just delivered. These data are also relayed via army NED to the army headquarters war room and the tactical support center. The initial report is followed by an automatic electronic summary of damage done by both the atomic missiles and the surface-to-surface missile strike, giving estimated casualties and destruction accomplished.

Drone photographic, TV, and radar planes as well as unattended ground sentinel stations have been feeding data into the division NED, and from this processed information the intelligence director at the division tactical command post has a continuously current plot of detected enemy troops and equipment plus other information concerning the enemy area.

At 0645, short-range drone aircraft report the enemy has



begun to react to our penetration. Several enemy small units have been alerted; they appear to be service-type troops, hastily organized for the mission at hand. Through continuous surveillance of the enemy area, NED receives sufficient information to plot visually their location and movement and to determine arithmetically their rate of march, strength, and other data.

By 0650, our combat groups are beginning to make their POW reports over the NED system. The right-flank group has captured an enemy field general and two field colonels. At the tactical command post the director of intelligence instructs the group to airlift these officers to his headquarters for questioning. These and other POW data are relayed to directors of intelligence at corps and army by means of the army NED system.

Timely strength reports

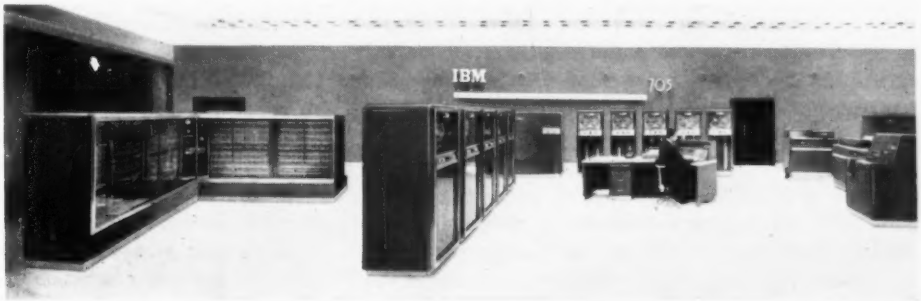
Friendly strength reports begin passing over the division NED system at 0700. Left flank combat group requests immediate replacements for losses sustained. The request is denied by the division commander since the losses are not great, and this group is not making the main effort of the division. Instead, right-flank group replacements have been approved, and an alert is flashed over the NED system to the support command for replacement packets of personnel. Data on landing zones, weather, and landmarks are also transmitted via the division NED.

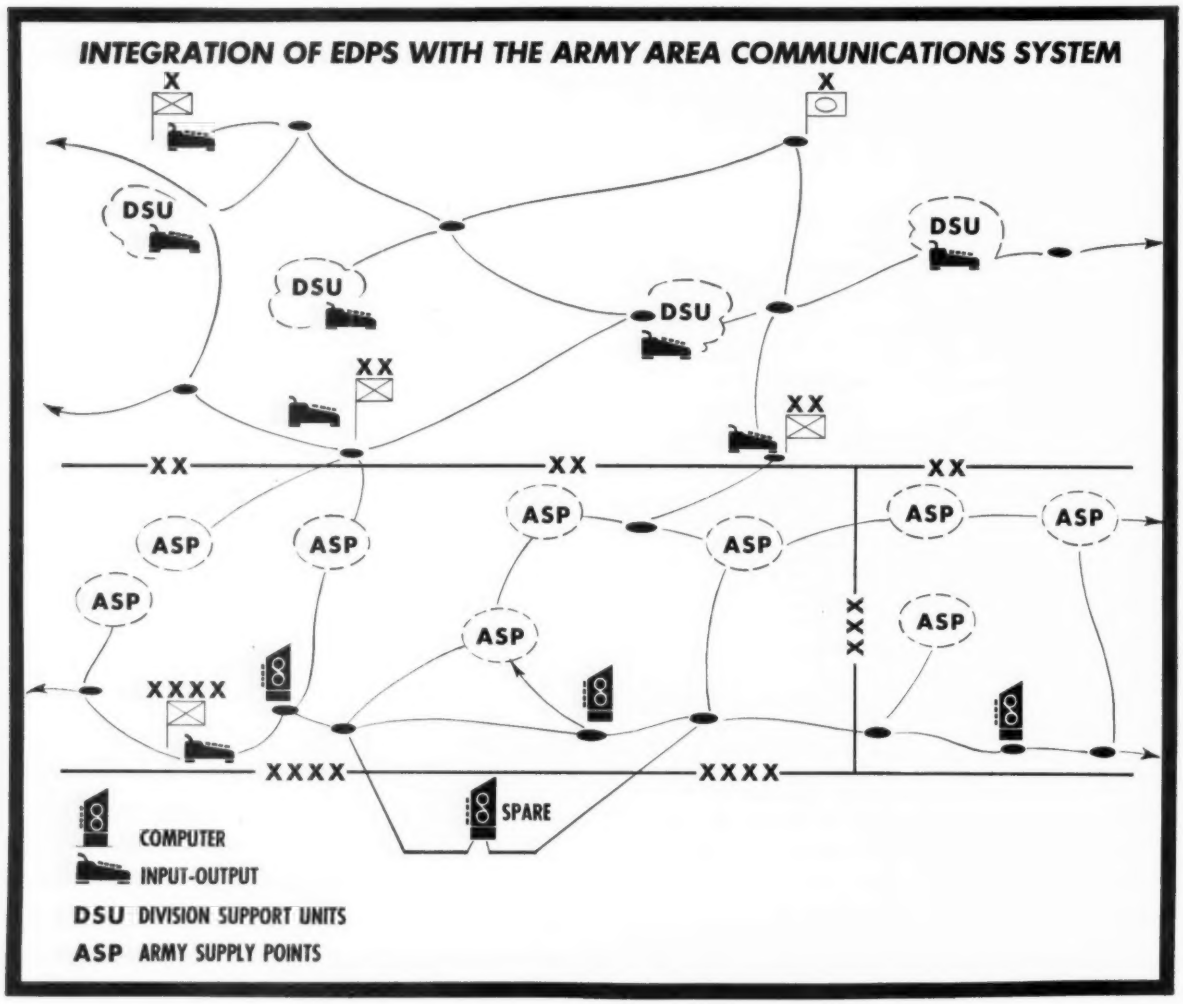
By 0715, information obtained from the officer POWs at tactical command post is relayed via NED to army, where it will pass through a verification and authenticity process using electronic computers and totalizers of the army NED system. Part of the information is determined to be factual, and division is so informed within a matter of a few minutes. From this information and previously reported damage estimates, the division intelligence estimate and summary are revised electronically. A few minutes later this revision is presented graphically for the director of intelligence at division. Parts of this graphic display are also transmitted to corps and army headquarters.

At 0805, the right and center combat groups report that they have secured their objective and are consolidating their positions. Replacements for the right flank combat sector are emplaning to that sector, according to information received over NED from support command headquarters. At

The Rawin set AN/GMD-1A is used for tracking the radiosonde transmitter that is sent aloft to collect meteorological data

IBM electronic computer used by the Army





0830, the left-flank combat group reports its objective secured, and position consolidated.

Immediately following this, from division logistic command a preplanned query is automatically transmitted over the division NED to the director of operations as to whether or not the additional combat and logistical support units previously planned for the division should now be brought up. The query is relayed electronically to the combat groups, and they reply in the affirmative. After approval by the division commander, a previously planned alert is transmitted by NED to the support command requesting specific units be airlifted to the groups concerned. Data on drop zones, landmarks, weather, and other information are also transmitted by NED with the request.

Defense intelligence

At 0855, the division director of operations requests the NED system to provide both statistical and graphic plots of the present location of all friendly forces plus all preparations for defense. Drone planes and other surveillance devices scan the area, and provide the NED system with the necessary information. A careful review of this plot at tactical command post indicates some major deficiencies in the positioning of troops, and these are corrected by direction of the division commander.

By 0915, the division director of operations has collected sufficient information from the NED output devices to sketch a map of the combat area which is transmitted by an input device. This map includes new boundaries for the combat groups, areas to be patrolled, defenses to be established, and other information. When completed, the map is transmitted instantaneously via the division NED to the combat groups and other headquarters. It is also relayed to corps and army headquarters via the army NED. The division commander requests a NED closed-loop TV conference on this map with his senior commanders.

The combat groups are now requesting that aerial observation and pictorial information of their positions be made to

check for camouflage. Drone planes with TV and radar are immediately dispatched via NED to the sectors. They are supplemented by drone planes taking aerial photographs for quick reproduction and delivery by air drop on designated drop zones near NED input devices. There the photographs are scanned and transmitted within a few seconds to the combat group headquarters.

By 1000 hours, this phase of operations of the division has been completed, and all forces effectively consolidated.

And such high-speed combat is possible with NED systems providing the commander with coordination and control over his widely dispersed forces, all at electronic speed.

Army Operational NED

Operations of the 2d Division, just described, are but a part of the operations of a field army—in this case, First Army. To see how the army NED functions in conjunction with the division NED, let's consider the same military operation—but from the standpoint of First Army headquarters.

The army NED ties directly to the division NED, and uses facilities of the army area communications system. Similar equipment is used, but it is usually much larger—capable of handling much heavier traffic loads of data than the division NED. Very large computers and data storage units are used at key points of the army system (*see chart, preceding page*).

The army NED also connects with the theater NED system, where even larger and more complex equipment is required to handle the tremendous amount of data computing, processing, storing and transmitting—to army NEDs, allied supreme headquarters, and to NED systems of the continental United States.

Planning of the combat operation just described started several days earlier at army headquarters. At that time, the army commander announced the concept of the operation, which was to take advantage of targets of opportunity. Planners of First Army and its supporting air force assembled with theater planners at theater headquarters. There advantage was taken of the *larger* theater NED system, which was available to the group. Data were then collected via the theater NED system from electronic storage files in CONUS intelligence center and from other headquarters and sources. These data included recorded experiences on similar and related types of operations, intelligence information of the enemy area, terrain and weather data, airlift capabilities, possible troops available to the theater commander for assignment to First Army, and other information.

Based on this wealth of information which made up the factual elements of the estimate, all but three courses of action were sifted out and rejected as impractical. These three courses of action and probable enemy counteraction were war-gamed with all possible variations. Final choice of a course of action then hinged on more complete and detailed information on the enemy situation and related intelligence.

Immediately, over the theater NED system, a request was transmitted to army NED to obtain more specific data from army intelligence files. A similar request was made to intelligence centers in the United States. Within a few minutes these data were summarized and transmitted back to theater headquarters. Net requirements of resources were then computed, and planning finalized.

Complete and accurate briefings

Next day the First Army commander and the air force commander were briefed by their staffs on the three possible courses of action—with complete and accurate details concerning intelligence, operations, personnel, administration and logistics. Choosing the course of action he thought most likely to succeed with the least risk, the army commander directed implementation of the operation involving the 2d Division.

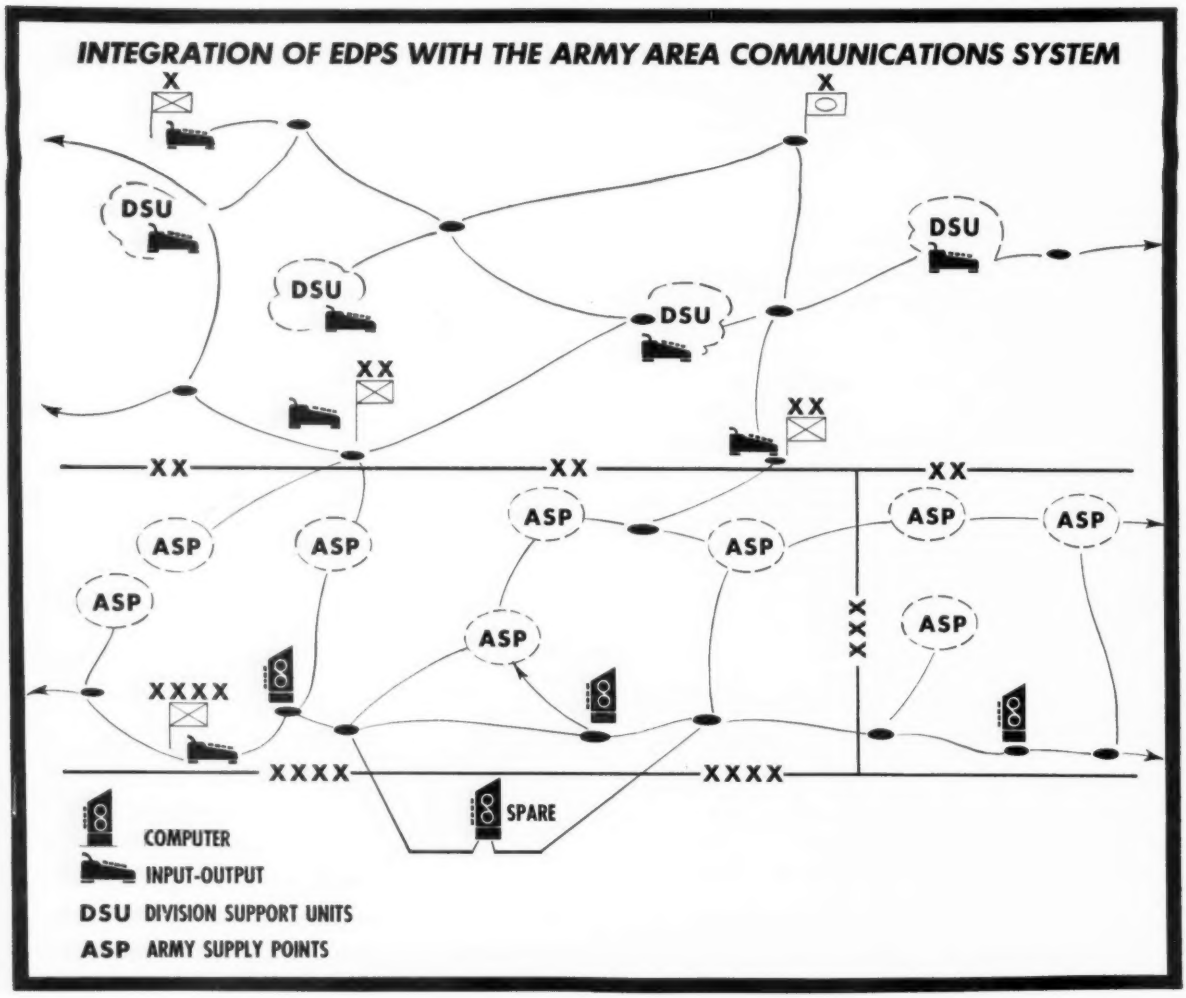
Through the theater NED link with NED systems of the United States, all personnel and equipment of the 2d Division were alerted, assembled and then flown to the theater. Only a minimum of time elapsed between the arrival of troops and supplies and their employment in the penetration. In this way lengthy build-up operations were eliminated. The army commander was given timely updated information and estimates. He could strike quickly, and at a time most advantageous.

Through the theater NED system, the army NED facilities could be extended to the headquarters of all supporting units and services in the entire theater area. These included intelligence centers, stock control and other logistical control centers, AG centers for personnel and other administrative services, finance centers, transportation centers, and other installations. By direct contact, the army and theater NEDs permitted the army commander to query any and all of the services and supporting facilities necessary to the success of the planned operation of the 2d Division. In turn, these facilities could call upon the army commander for such information concerning the situation as they required for planning, reporting, or other purposes.

Requests from one command level to another are accomplished by a part of the NED system, known as EDNAS (electronic data network automatic switching units). These units, like other equipment of an electronic data-processing system, are capable of high-speed operation, and of transmitting or receiving a tremendous volume of data traffic.

A complete system—an EDPS—places the army commander in a position to make decisions earlier, to strike sooner, and to catch targets and objectives of opportunity at the best time and place presented. A large build-up of forces for the 2d Division was obviated by fast, coordinated planning and rapid development of the concept. By means of EDPS, much of the paperwork associated with logistical tonnages, shipping, handling, storage, identification, and transshipment was eliminated.

A few days later, when the 2d Division seized its objective and consolidated its position in enemy territory, no small part of the success of the operation was due to the equipment, networks, and other facilities of an electronic data processing system: EDPS.



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Irons in the Fire

Power Goes To The Head

Experiments at Signal Corps Engineering Laboratories have shown that solar batteries can power the Army's new helmet radio, world's smallest transmitter-receiver. Long narrow clusters of tiny solar cells, which can convert light into electricity, are placed on either side of the helmet's crown. These silicon wafers power the helmet for normal daylight operation and also charge four small nickel-cadmium storage batteries to supply peak current by day and to operate the set at night.

Solar cells with enough surface to supply the fifty volts required by the radio's final stage transmission tube would more than cover the helmet, so it was necessary to provide a power converter to raise the approximately 4.5 volts of the solar-nickel-cadmium battery combination to fifty volts. Careful design produced a converter small enough to fit in the housing already used for the batteries, and the sun-powered radio, like the original, weighs less than a pound. Solar cells will provide power for possibly as long as a year, as against the present drycell's life of less than one day, if used continuously.

Solar-powered helmet radio in use

Re-entry Test Vehicle

The Lockheed X17 Test Vehicle is in use at Patrick Air Force Base, testing materials for nose cones of missiles and seeking solutions to the problems encountered in the re-entry into the atmosphere of ballistic missiles. X17 consists of the first stage, an Army Sergeant missile; second stage, three Army Recruit missiles; and third stage, still another Recruit. These are all solid propellant rockets developed for the Army by Thiokol Chemical Corp.

New Army Landing Craft

The Army Transportation Corps' experimental 338-foot Beach Discharge Lighter (BDL-1X) is scheduled for launching in September. Capable of transporting 600 tons of vehicular cargo and 1000 tons of general cargo from ship to shore or ship to ship, the new over-the-beach landing craft's two 1200 horsepower diesel engines and two six-bladed vertical axis propellers will drive her at a loaded speed of twelve knots, with a cruising range of approximately 4,800 miles.

Hand Truck Power Unit

A new electric unit has been developed to power any type of wheeled cart or truck that is at present manually operated. Called Electromite-M1, it is noiseless, free of gas fumes and fire hazard. It is mounted on standard, semi-pneumatic puncture proof tires and powered by automotive type batteries with a built-in charger that can be plugged into any 110 volt AC socket. It can run approximately ten level miles without recharging.

Seek Better Two-place Copter

The Army Transportation Corps has contracted with six companies for the design of a better, cheaper, and more stable two-man helicopter, with increased speed and range, decreased maintenance and fuel consumption as added requirements. The contracts run for four months, involve dollar grants of from $30,000 to $50,000, and call for the submission of production cost estimates. The companies with contracts are Bell, Doman, Gyrodyne, Hiller, Kellett, and Nagler.

Electronic Microfilm Card Reader

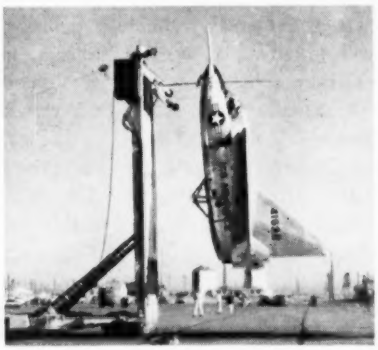
The National Bureau of Standards has completed a high speed electronic device that can read microfilmed copies of punched cards and search for cards containing specific information. Called FOSDIC II (Film Optical Scanning Device for Input to Computers), it is an extension of the work which resulted in the original FOSDIC, a device to read microfilmed Census documents. It is essentially an electronic scanner which reads the filmed card images, searches for those containing specified information, and copies the selected information onto new cards for computer input.

Ryan Vertijet

The Ryan X-13 VTOL jet aircraft, has demonstrated successfully its ability to take off straight up, change over to high speed horizontal flight, then back to vertical hovering for a zero speed landing. The revolutionary research plane has been flying in secret tests for more than a year.

The X-13 is an advanced development of pioneer research work Ryan Aeronautical Co. has been doing on VTOL jet aircraft since 1947 for the U. S. Navy Bureau of Aeronautics. The Vertijet, in contrast to flying test beds which have flown in this country and abroad, is a complete, full-scale, piloted airplane. Rising and descending on a column of invisible exhaust gases, it depends solely upon thrust from its jet engine for both direct lift and high speed flight.

A unique feature is the take-off and landing method. The plane has neither standard nor "tail sitter" type landing gear. Instead, it has a hook mounted beneath the forward fuselage which engages a trapeze-like cable on the bed of a specially designed ground service trailer. The trailer bed is hydraulically raised into vertical position to receive the plane, then lowered to transport it in the horizontal position.



New Ryan VTOL jet

Deadly Seeder

A one-man, tractor-drawn mechanical mine planter has been developed jointly by the Corps of Engineers R&D Laboratories and International Harvester Co. The planter has a "lazy susan" type magazine, which automatically feeds the mines into the planting mechanism. This consists of a large plow

which raises the soil and a mechanism which arms the mines and drops them under the raised layer of earth, which then falls back into place.

The machine is mounted on pneumatic tires, and may be towed by standard military trucks at regular highway speeds for transport.

Fast Mathematics

The Multi-weapon Automatic Target and Battery Evaluator (MATABE) is an electronic control system capable of performing 136,000 mathematical steps in less than a second. Conceived by Signal Corps Engineering Laboratories and developed by the Burroughs Corporation, MATABE will enable antiaircraft operations center officers to calculate in milliseconds the information needed to make the most effective use of their weapons in the destruction of attacking aircraft. It can handle 720 multiplications, 714 additions and five divisions in less time than it takes the fastest mechanical computer to perform one simple addition and will provide such vital facts as: time of missile from battery to target, point of intercept, "kill" probability, target priority, and many more.

Ultra-Light Jet Helicopter

Piasecki Aircraft has introduced a British helicopter in the United States. It is Fairey Aviation's Ultra-Light jet built for the British Army. The tiny, turbo powered, single rotor helicopter's propulsive system consists of a turbine air compressor and pressure jets at the tips of the two rotor blades. This eliminates the anti-torque tail rotor and the complex gears, clutches and shafts necessary in a standard helicopter drive. With an empty weight of 995 lbs., Ultra-Light has a top speed of over 105 MPH, cruises at 80 MPH, and has a vertical rate of climb at sea level of 1,000 feet per minute.

The Fairey Ultra-Light

Time-saving automatic mine planter

Engine Heater

A new engine heater for motor vehicle fleet operators called the "Parka" is a simple, self contained oil fueled heater with the capacity to maintain fifteen or twenty vehicle engines at a warmed up, ready for action temperature. The "Parka" keeps a constant circulation of hot water running through the cooling systems of the vehicles, thus saving the time, fuel, and engine wear spent in idling motors, and providing protection against freezing. Manufacturer is the Vapor Heating Co., of Chicago.

Tiny Transistors

The four new General Electric transistors are compared with two "seeding" dandelions in the accompanying cut. These transistors are designed for use in military and industrial electronic equipment such as guided missile computers and controls, automatic pilots, nuclear reactors, steel mills and various servomechanisms. The diffused-meltback process used to produce them was invented in General Electric's Advanced Semiconductor Laboratory.

New GE silicon transistors

HOT SPARKS

Army Aviation is evaluating the possibilities of using the Cessna T-37A twin-jet trainer for photo reconnaissance, artillery observation, and other support missions.

The Raylen Mfg. Co. of Denver has produced a hardwood "Nesting" chair which stacks thirty chairs in less than eight feet of headroom, providing a storage saving that should be of interest to anyone with a dual purpose hall or auditorium.

Flight tests of the multi-jet P-6M Martin SeaMaster, with a redesigned tail assembly, will be resumed this fall by the Navy. The test program was halted last year after two of the experimental 600-mile-an-hour seaplanes crashed.

A mobile biological laboratory has been developed by Corps of Engineers sanitary engineers for use by the Army Chemical Corps in performing biological, chemical, physical and sanitary engineering studies in the field.

Volume production of the Fairchild Armalite automatic rifle, the AR-10, will begin soon in Holland under terms of an agreement between Fairchild Engine and Airplane Corp., and Artillerie-Inrichtingen. The Dutch company will have production and sales rights in the Netherlands, Germany, France, Italy, Austria, Belgium, Luxembourg, Spain and Portugal, and will also serve as production source for sale of the AR-10 in other sections of the world.

The Signal Corps has a one-man, 15-mile range, ground reconnaissance reflex viewing camera. Designed and built by Kalart Co., Inc., it takes a five- by seven-inch negative, either cut film or roll, and can be used with a Polaroid Land camera adaptor, capable of taking and developing a picture in 60 seconds.

Vertol Aircraft Corp., has developed four new improvements for its H-21 helicopter: a "differential delta-three" device for longitudinal stability, an automatic roll rate damper unit for lateral stability, enlarged vertical tail fins for directional stability and metal rotor blades for improved performance.

ASSOCIATION OF THE U. S. ARMY

Aims and Objectives

The Association of the U. S. Army shall be an organization wherein all who are in accord with its objectives may join in the exchange of ideas and information on military matters, and in fostering, supporting, and advocating the legitimate and proper role of the Army of the United States and of all its elements, branches, and components and providing for and assuring the Nation's military security.

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Membership

General Membership. General membership in the Association shall be open to any individual who has been honorably discharged or retired from the Armed Forces of the United States, to members of the National Guard of the United States not on active duty, to members of the United States Army Reserve not on active duty, and to such persons as have held appointive office in the Department of the Army.

Service Membership. Service membership in the Association shall be open to all active-duty members of the Army of the United States.

Cadet Membership. Cadet membership in the Association shall be open to the cadets of the United States Military Academy and to all current enrollees in Junior, Military Schools, and Senior Divisions of the Army ROTC Program, including those units provided for by Section 55c of the National Defense Act as amended.

Associate Membership. Associate membership shall be open to active-duty personnel of the other services, to civilian employees of the Department of the Army not qualified for General Membership, and to any individual who supports the objectives of the Association and who meets such requirements as may be promulgated in regulations passed by the Council of Trustees.

Sustaining Membership. Sustaining membership shall be open to such industrial, commercial, business, professional, technical and veteran firms, corporations, organizations or societies that wish to support the aims and purposes of the Association, subject to specific approval by the Council of Trustees.

REPORT FROM YOUR AUSA CP

Congratulations to Mr. Karl Bendetsen, a member of our Advisory Board of Directors, upon being awarded the Medal of Freedom for furthering international relations! The award was presented by Secretary of Defense Wilson in recognition of Mr. Bendetsen's services in furthering relationships between the United States and the Federal Republic of Germany and the Republic of the Philippines.

Colonel L. E. March, USAR, commanding the 98th Division Artillery, reports that one hundred per cent of the personnel of his headquarters are now members of the Association. Headquarters of U. S. Army Port of Embarkation at Bremerhaven sent in 32 applications for membership in one group. And one hundred per cent of the officers of Battery C, 57th FA Battalion, are now members of the Association. From three different areas of the world comes this splendid support which is so gratifying to all of us.

Captain Robert M. Dwinell, upon his departure from the ROTC unit at Penn State, was presented the Army Commendation Ribbon by Lt. Gen. Charles E. Hart, CG, Second Army, for his fine work with that unit and for his personal efforts in organizing the first AUSA ROTC Company. Our congratulations to a deserving officer.

The Association is making an award of three hundred dollars to each Army officer whose scientific paper is selected as outstanding by the Army Scientific Advisory Panel in a program being conducted under the supervision of the Chief of Research and Development, Department of the Army. The awards will be made at the U. S. Military Academy on 28 June, at the Army Science Conference. The money for these awards comes from our Sustaining Membership Program. The support of this program by American industry is continuing; we now have 23 Sustaining Memberships.

The 2d Regular Meeting of the Council of Trustees was held in Washington, D. C., on 27 May, at our National Headquarters. The following important actions resulted:

- A Resolutions Committee of five members was authorized, and a procedure for handling resolutions was adopted. This procedure provides that all resolutions to be introduced at the Third Annual Meeting will be submitted to the Resolutions Committee at least thirty days before the Annual Meeting for screening and transmittal to the Council of Trustees. This does not prohibit the introduction of unapproved resolutions from the floor at annual meetings. No resolution is binding on the Association until it has been passed by the membership and also ratified by the Council of Trustees either before or after the annual meeting. Resolutions submitted by Chapters, other than at annual meetings, will be considered by the Council at its next regular meeting.
- An Awards Committee of three members was authorized.
- Because of the inadequacy of the building presently occupied by your National Headquarters, the Council authorized an investigation to determine whether or not better facilities could be obtained economically.
- Three new Chapters and two new ROTC companies were approved for charter.
- In order to eliminate some confusion which has arisen and to simplify administration and accounting, the Council approved changes in the regulations relating to Chapters and ROTC Companies.

WALTER L. WEIBLE
Lt. Gen., USA, Rtd.
Executive Vice President

AUSA REGIONAL ACTIVITIES

CHAPTERS

ALBUQUERQUE CHAPTER

Secretary: Lt. Col. James M. Keating, Rtd., P.O. Box 1689, Albuquerque, N. M. *President:* Col. Benjamin T. Rogers, Rtd.; *First Vice President:* Col. Charles K. Dillingham, Rtd.; *Second Vice President:* MSgt Vernon E. Kerr, USAR; *Treasurer:* Capt. Vance Mauney, USAR.

BROOKLYN CHAPTER

Secretary: Miss Irene De Martini, Office of the CG, U. S. Army Transportation Terminal Command, Atlantic, Brooklyn 50, New York. *President:* Maj. Gen. Evan M. Houseman; *First Vice President:* Brig. Gen. A. M. Willing; *Second Vice President:* Dr. Leo A. Lieberman; *Treasurer:* Mr. Bernard Hershey.

Geographical area: Borough of Brooklyn in the City and State of New York, and adjacent counties where no chapters are currently established.

CALIFORNIA CENTRAL VALLEY CHAPTER

Secretary: Mr. Kenneth F. Neill, Information Officer, Sharpe General Depot, Lathrop, California. *President:* Brig. Gen. D. S. McConnaughy, USA-Rtd.; *First Vice President:* Colonel Robert S. Quick; *Second Vice President:* Col. Wyan Thiessen, USA-Rtd.; *Treasurer:* Mr. Carroll G. Grunsky.

Geographical area: Counties of San Joaquin, Calaveras, Tuolumne, Stanislaus, Merced, Mariposa, Madera and Fresno in the State of California.

CAMP IRWIN CHAPTER

First Vice President: Lt. Col. David D. Fleming, Comptroller Section, U. S. Army Garrison (6019-01), Camp Irwin, Calif. *President:* Col. James W. Bidwell; *Second Vice President:* MSgt Clair A. Hunt; *Treasurer:* CWO Tom D. Dials.

COLUMBUS-FORT BENNING CHAPTER

Secretary: Col. S. S. Sogard, Adjutant General's Section, Fort Benning, Ga. *President:* Mr. T. G. Reeves; *First Vice President:* Mr. J. W. Woodruff, Jr.; *Second Vice President:* Lt. Gen. Manton S. Eddy, Rtd.; *Treasurer:* Lt. Col. Edward D. Fitzpatrick.

THE COOK COUNTY CHAPTER

Secretary: Col. Jules V. Houghtaling, USAR-Rtd., 1787 Clifton Ave., Highland Park, Ill. *President:* Gen. Robert E. Wood, USA-Rtd.; *First Vice President:* Brig. Gen. Lawrence Whiting, USAR-Rtd.; *Second Vice President:* Brig. Gen. Otto Kerner, USAR-Rtd.; *Third Vice President:* Col. Walter L. Furbershaw, USAR-Rtd.; *Fourth Vice President:* Col. Joseph Triner; *Treasurer:* Lt. Col. O. C. Tyler, USAR; *Asst. Secretary:* Lt. Col. Herbert Moselle, USAR.

DALLAS CHAPTER

Secretary: Lt. Col. John L. Briggs, Southland Insurance Company, Dallas, Texas. *President:* Col. William B. Ruggles, USAR-Rtd.; *First Vice President:* Mr. Harold F. Volk; *Second Vice President:* Mr. N. J. DeSanders, Jr.; *Treasurer:* Mr. Lloyd S. Bowles.

DES MOINES CHAPTER

Secretary-Treasurer: Lt. Col. Clyde Putnam, USAR, 720 Des Moines Bldg., Des Moines, Iowa. *President:* Col. Harold E. Pride; *First Vice President:* Lt. Col. Willard Hayne; *Second Vice President:* Lt. Col. William Leachman.

DETROIT CHAPTER

Secretary: Mr. Harold J. Miller, Hq Ord Tank-Automotive Command, 1501 Beard, Detroit 9, Michigan. *President:* Maj. Gen. Gordon A. MacDonald, NGUS; *First Vice President:* Col. T. S. Cawthorne, USAR; *Second Vice President:* Mr. Clifford O. May; *Treasurer:* Col. Robert Bruce.

Sponsored, with Navy League and Aero Club of Michigan, ROTC Award Dinner, 28 May, with Secretary Brucker as principal speaker.

EAST BAY CHAPTER

Secretary: Col. Earl W. Huntting, USAR, Insurance Securities Inc., 2030 Franklin Street, Oakland 12, California. *President:* Mr. Edwin Meese, Jr.; *First Vice President:* Maj. Gen. William F. Dean, USA-Rtd.; *Second Vice President:* Major Paul Reed; *Treasurer:* Lt. Col. John A. Dutro, USAR.

Geographical area: Alameda and Contra Costa Counties in the State of California.

HEIDELBERG, GERMANY. Maj. Gen. George E. Martin, AC of S, G1, USAREUR, receives the charter of Heidelberg Chapter from Mr. John W. Kuhel, associate member of the Chapter and Heidelberg Branch manager of the Chase Manhattan Bank

EL PASO CHAPTER

Secretary: Mr. C. William Wakefield, P. O. Box 193, El Paso, Tex. *President* Dr. Hervey W. Dietrich; *First Vice President:* Mr. Richard W. MacCarthy; *Second Vice President:* Mr. L. T. Vice; *Treasurer:* Mr. George E. Rawson.

Meeting 13 May at Officers' Club, Fort Bliss, on subject of Guided Missiles. Maj. Gen. R. J. Wood and Brig. Gen. D. O'Connor spoke after business meeting, and reelection of present officers.

FORT DEVENS CHAPTER

Secretary: Capt. R. S. Moriarty, 4th RCT, Fort Devens, Mass. *President:* Col. Fred L. Walker; *First Vice President:* Lt. Col. Robert C. Harris; *Second Vice President:* Maj. Glenn N. Mayo; *Treasurer:* Major Margot Reis.

FORT HOOD CHAPTER

Secretary: MSgt Maurice N. Madison, G4 Section, Bldg. 2225, Fort Hood, Tex. *President:* Brig. Gen. Roland H. del Mar; *First Vice President:* Col. W. G. Merriam; *Second Vice President:* Col. J. F. Delaney, Jr.; *Treasurer:* Capt. M. M. Gentry.

FORT LEONARD WOOD CHAPTER

Secretary: Lt. Col. George A. Rigely, Building 401, Fort Leonard Wood, Mo. *President:* Maj. Gen. William C. Baker, Jr.; *First Vice President:* Mr. Dru Pippin; *Second Vice President:* Col. George A. Meidling; *Treasurer:* Lt. John W. Shannon; *Asst. Secy-Treas:* MSgt. Charles B. Ing.

FORT RILEY CHAPTER

Executive Secretary: Lt. Col. Kenneth L. Boggs, Room 114, Patton Hall, Fort Riley, Kans. *President:* Mr. John D. Montgomery; *First Vice President:* Mr. Ralph Wareham; *Second Vice President:* Mr. Charles S. Arthur; *Secretary:* Mr. Blair D. Adam; *Treasurer:* Mr. Ed J. Rolfs, Jr.

FORT SHERIDAN CHAPTER

Secretary: MSgt James L. Norris, Fort Sheridan, Ill. *President:* Lt. Col. Warren J. King; *First Vice President:* Maj. Dale E. Williams; *Second Vice President:* Mr. Donald Y. McKay; *Treasurer:* Major I. M. Henry, WAC.

FRANKFORD ARSENAL CHAPTER

Secretary: Mr. Reuben Levine, Frankford Arsenal, Philadelphia 37, Pa. *President:* Dr. William J. Kroeger; *First Vice President:* Mr. Harry F. Devlin; *Second Vice President:* Mr. George S. VanDyke, Jr.; *Treasurer:* Mr. Kenneth E. Yocum.

GARRY OWEN CHAPTER

Secretary: Capt. Harry W. Rollins, Hq 7th Cavalry Regt., APO

NEW YORK, N. Y. The provisional officers of New York Chapter as elected at the initial meeting. *Left to right:* Maj. Emilie L. Berkley, Secretary; Col. Arthur D. Hirt, 1st Vice President; Lt. Col. Charles I. Katz, President; Lt. Col. Pelham St. George Bissell, III, 2d Vice President; Col. Lloyd W. Stearns, Treasurer

201, San Francisco, California. *President:* Lt. Col. William T. Rogers; *First Vice President:* Major Bruce S. Eldridge; *Second Vice President:* Capt. James T. Cecka; *Treasurer:* 1st Lt. Ronald R. Berkey.

GENERAL JOHN J. PERSHING CHAPTER

Treasurer: Lt. Col. Harland L. Dodge, c/o Comptroller Section, Hq First U. S. Army, Governors Island, New York. *President:* Col. Sidney G. Brown, Jr.; *First Vice President:* Col. Harry C. Keeney; *Second Vice President:* MSgt John A. Butler; *Secretary:* Major George I. Stoeckert; *Legal Officer:* 1st Lieutenant Sheldon Cohen.

HAWAII CHAPTER

Secretary: Major Charles D. Flinn, Hq U. S. Army Pacific, APO 958, San Francisco, California. *President:* Col. Alexander D. Surles, Jr.; *First Vice President:* Lt. Col. Emmet L. O'Connor; *Second Vice President:* Lt. Col. Arthur J. Pancock, USAR; *Third Vice President:* Lt. Col. Robert L. Stevenson, NGUS; *Treasurer:* Lt. H. H. Sackett.

HEIDELBERG CHAPTER

Secretary: Capt. A. L. Shoaff, Hq USAREUR, APO 403, New York, New York. *President:* Major Gen. G. E. Martin; *First Vice President:* Col. K. E. Adamson; *Second Vice President:* Col. S. E. Otto; *Treasurer:* Major W. H. Brandenburg.

Charter presented 15 May at Campbell Barracks by Mr. John H. Kuhel to Maj. Gen. G. E. Martin. Gen. H. I. Hodes and Maj. Gen. H. G. Maddox attended charter luncheon.

HENRY LEAVENWORTH CHAPTER

Secretary: Maj. John H. Cushman, Fort Leavenworth, Kans. *President:* Mr. Harold A. Purdy; *First Vice President:* Mr. John W. Breidenthal; *Second Vice President:* Col. John H. Hay; *Treasurer:* Mr. George H. Ryan.

INDIANA CHAPTER

Treasurer: Major Alfred F. Ahner, Room 212 State House, Indianapolis, Indiana; *President:* Brig. Gen. Wendell C. Phillippi, NGUS; *First Vice President:* Col. John C. Carvey; *Second Vice President:* Brig. Gen. John W. McConnell; *Secretary:* Col. Harsel Harris.

KELLEY BARRACKS CHAPTER

Secretary: Lt. Col. Henry T. Agee, Hq VII Corps, APO 107, New York, N. Y. *President:* Brig. Gen. Charles E. Beauchamp; *Honorary President:* Lt. Gen. John F. Uncles; *First Vice President:* Col. William B. Kunzig; *Second Vice President:* Col. Edson D. Raff; *Treasurer:* CWO-2 Alfred J. Buza.

Geographical area: included in the Kaserne known as Kelley Barracks, APO 107, U. S. Army.

KENTUCKIANA CHAPTER

Secretary: Capt. John C. Burney, c/o General Delivery, Fort Knox, Kentucky. *President:* Col. George M. Chescheir, Rtd.; *First Vice President:* Maj. Gen. Paul A. Disney; *Second Vice President:* Lt. Col. Julio Chiaramonte; *Treasurer:* Capt. Wilbur T. Whitehead; *Asst. Secretary:* MSgt Robert J. McDonald.

Maj. Gen. Harry McK. Roper, USA-Rtd., member of the Council of Trustees, AUSA, presented charter 20 May, at impressive ceremony at Fort Knox.

LAWTON-FORT SILL CHAPTER

Secretary: Maj. Rawlins M. Morris, P. O. Box 84, Lawton, Okla. *President:* Mr. George Page; *First Vice President:* Mr. Milton Worley; *Second Vice President:* Mr. Floyd Zook; *Treasurer:* Brig. Gen. John F. Bird, Rtd.

MILWAUKEE CHAPTER

Secretary: Mr. George Comte, c/o The Wisconsin Military District, Federal Post Office Building, Milwaukee, Wisconsin. *President:* Brig. Gen. Don E. Carleton; *First Vice President:* Mr. G. M. Taylor; *Second Vice President:* Lt. Col. Roth S. Schleck; *Treasurer:* Maj. Frank X. Mages.

INDIANAPOLIS, IND. Lt. Gen. W. H. Arnold, CG, Fifth Army, congratulates Brig. Gen. Wendell C. Phillippi, NGUS, President of Indiana Chapter

FORT RILEY, KANSAS. ROTC Cadet Richard Bartel of Great Bend, Kansas, receives an honorary membership in Fort Riley Chapter from Mr. Edward J. Rolfs, Jr., as Lt. Col. Thomas H. Farnsworth looks on

MONTEREY COUNTY CHAPTER

Secretary: Mr. Richard Bennett, Pebble Beach, California. *President:* Col. Allen Griffin, AUS-Rtd.; *First Vice President:* Mr. Joseph Juri; *Second Vice President:* Maj. Gen. Robert B. McClure, Rtd.; *Treasurer:* Col. Frank A. Heywood.

MOTHER LODE CHAPTER

Secretary-Treasurer: Lt. Col. William L. Shaw, NGUS, 3701 College Ave., Sacramento, Calif. *President:* Brig. Gen. A. M. Shearer, Rtd.; *First Vice President:* Mr. E. A. Combatalade; *Second Vice President:* Mr. George E. Holt.

NEW ORLEANS CHAPTER

Secretary: Mr. Louis Robillia, Jr., Deputy Director of Plans and Programs, U. S. Army Transportation Terminal Command, Gulf, New Orleans, Louisiana. *President:* Mr. Wallace M. Davis; *First Vice President:* Brig. Gen. L. Kemper Williams, USAR-Rtd.; *Second Vice President:* Brig. Gen. Robert V. Maraist, USA-Rtd.; *Third Vice President:* Mr. Jonas C. Sporl; *Treasurer:* Major Thomas J. O'Connor.

Geographical area: Jefferson, Orleans and St. Bernard Parishes in the State of Louisiana.

NEW YORK CHAPTER

President: Lt. Colonel Charles I Katz, USAR, 250 West 57th Street, New York 19, New York. *First Vice President:* Col. Arthur D. Hirt, USAR; *Second Vice President:* Lt. Col. Pelham St. George Bissell, III, USAR; *Secretary:* Major Emilie L. Berkley, USAR; *Treasurer:* Lt. Col. Lloyd W. Stearns, USAR.

Geographical area: New York City.

PIKES PEAK CHAPTER

Secretary: Lt. Col. Frank A. Golbey, USA-Rtd., P. O. Box 2442, Colorado Springs, Colorado. *President:* Lt. Col. J. D. Ackerman, USAR; *Executive Vice President:* Major Gen. William H. Gill, USA-Rtd.; *Vice President for Membership:* Mr. George S. Winters;

Vice President for Programs: Mr. Samuel T. Jones, Jr.; *Treasurer:* Major H. C. Fleming, Jr., USAR.

Charter presented 29 May by Gen. Charles L. Bolté, USA-Rtd., to Lt. Col. J. D. Ackerman, USAR, President. Gen. Maxwell Taylor made principal address. This is now AUSA's largest chapter, with 3,792 members registered on Charter Night. Over 1,400 of membership is civilian, non-active-duty Reserve, National Guard, and Retired. Local business houses display Pikes Peak Chapter decals on doors, windows.

POLK CHAPTER

Secretary: Lt. Col. John W. Rodgers, Fort Polk, La. *President:* Mr. F. E. Hernandez; *First Vice President:* Mr. P. Hoyt Hays; *Second Vice President:* Mr. Albert J. Carter; *Treasurer:* Mr. J. R. Monk, Jr.

SAN FRANCISCO CHAPTER

Secretary: Col. C. C. W. Allan, Office of the Deputy Chief of Staff, Hq Sixth Army, Presidio of San Francisco, California. *President:* Mr. Frederick M. Fisk; *First Vice President:* Lt. Gen. Claude B. Ferenbaugh, USA-Rtd.; *Second Vice President:* Mr. William M. McNabb; *Treasurer:* Mr. Albert Leslie.

ROTC MEDAL AWARDS

AUSA ROTC Medals have been awarded to the following cadets through 31 May 1957

Alfred University ..... Cadet 1st Sgt. James D. Sproul
Arizona State College ..... Cadet Major Charles N. Abraham
Arkansas State College ..... Cadet MSgt. Douglas E. Moore
Boston College ..... Cadet Lt. Col. Theodore F. Maggelet, Jr.
Boston University ..... Cadet Malcolm G. Hunt
Centenary College of Louisiana ... Cadet Lt. Col. Neal Elton Dry
The Citadel ..... Cadet 1st Lt. T. D. Cordell
Colorado School of Mines ..... Cadet MSgt. Gerald E. Uhland
Creighton University ..... Cadet Lt. Louis O. Nichols, Jr.
Georgetown University ..... Cadet Capt. Thomas A. Mackey
Gonzaga University ..... Cadet Lt. Col. Roger J. Roman
Hampton Institute ..... Cadet David A. Cannon
John Carroll University ..... Cadet Major James J. Halloran
Knox College ..... Cadet Lt. Col. James E. Roberts
Loyola University ..... Cadet Major Edmund J. Schmidt
Mass. Institute of Technology .... Cadet Major Harry M. Salesky
New York University ..... Cadet Major Michael Schumann
New York University ..... Cadet Lt. Sheldon Brown
Niagara University ..... Cadet Capt. John P. Real
N. C. State College of A. & E. ..... Cadet Richard J. Cashwell
N. C. State College of A. & E., Cadet Lt. Col. Paul John Pickenheim
Northwestern State College of La., Cadet Lt. Col. James C. NcNew
Oregon State College ..... Cadet Douglas N. Bennion
Oregon State College ..... Cadet George V. Ellison
Oregon State College ..... Cadet Darrold D. Garrison
Oregon State College ..... Cadet James M. West
Rensselaer Polytechnic Institute, Cadet Lt. Col. William G. Heatzig
Ripon College ..... Cadet Lt. Col. Robert L. Ainsworth
St. Norbert College ..... Cadet William L. Shackelford
Southwest Missouri State College, Cadet 1st Lt. Max W. Garoutte
Texas Western College ..... Cadet Lt. Jerry Kellen
University of Cincinnati ..... Cadet Bennett H. Beverly
University of Colorado ..... Cadet Col. James Hart Higman
University of Delaware ..... Cadet Col. David S. Seitz
University of Oregon ..... Cadet Capt. Jean G. Bowles
Vanderbilt University ..... Cadet Lt. Col. Gerald J. Hudson
Westminster College ..... Cadet Major Lewis T. Rawlings
Wheaton College ..... Cadet Donald E. Yohe
The Youngstown University ..... Cadet Thomas F. Jones

SEATTLE CHAPTER

Secretary: Mr. Joseph A. Sweeney, 917 Arctic Bldg., Seattle 4, Washington.

Geographical area: the City of Seattle, and the area encompassed within a 20-mile radius.

WASHINGTON STATE CHAPTER NO. 1

Secretary: Lt. Col. John A. Spencer, Fort Lewis Exchange, Fort Lewis, Washington. *President:* Col. James Stack, USA-Rtd.; *First Vice President:* Mr. Harry Minor; *Second Vice President:* Mr. Fred Osmers; *Treasurer:* Mr. Carl Phillips.

WOLTERS CHAPTER

Corresponding Secretary: Capt. John J. Peterson, Office of the Provost Marshal, Camp Wolters, Tex. *President:* Mr. Fred Brown; *First Vice President:* Mr. Harry Hopkins; *Second Vice President:* Mr. Orval W. Shore; *Third Vice President:* Col. John L. Inskeep; *Recording Secretary:* Mr. Malcolm Maupin; *Treasurer:* Mr. I. R. Preston.

ROTC COMPANIES

CANISIUS COLLEGE COMPANY

Canisius College, Buffalo, New York

Captain: Cadet Daniel T. Kirst; *First Lieutenant:* Cadet Thomas R. Block; *Second Lieutenant:* Cadet Joseph S. DePaolo; *First Sergeant:* Cadet Daniel W. Sullivan.

CITADEL COMPANY

The Citadel, Charleston, S. C.

Captain: Cadet Edwin C. King; *First Lieutenant:* Cadet Terry D. Cordell; *Second Lieutenant:* Cadet Charles M. Watson, Jr.; *First Sergeant:* Cadet Jimmie E. Jones, Jr.

DAKOTA COMPANY

North Dakota Agricultural College, Fargo, N. D.

Captain: Cadet Arnold Ellingson; *First Lieutenant:* Cadet Neal Bjornson; *Second Lieutenant:* Cadet Melvin Werth; *Social Chairman:* Cadet Curtis Stromstad; *First Sergeant:* Cadet W. Dale Ruff.

Meeting 28 May began planning for improvement of Military Ball, and setting up military displays including those for freshmen orientation at beginning of fall term. Program portion included talk on social life and customs in the Army, by Capt. Sennewald, and showing of photographic slides of Europe by Capt. Hanson.

DICKINSON COLLEGE COMPANY

Dickinson College, Carlisle, Pa.

Captain: Cadet Wilbur M. Otto; *First Lieutenant:* Cadet Fred Conrad; *Second Lieutenant:* Cadet William Rogers; *First Sergeant:* Cadet Dick Schafer; *PIO Sergeant:* Cadet William Black.

Prof. John C. Pflaum, of the Dickinson Faculty, lectured on "The Army of the Potomac" at the Company meeting on 7 May.

DUQUESNE UNIVERSITY COMPANY

Duquesne University, Pittsburgh 19, Pa.

Captain: Cadet James King; *First Lieutenant:* Cadet John Vensel; *Second Lieutenant:* Cadet John Sullivan; *First Sergeant:* Cadet Alfred Eisenacher.

EDMUND R. WALKER COMPANY

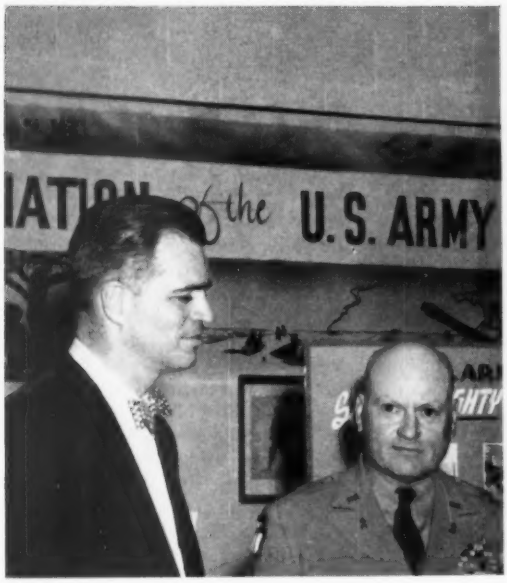
University of Connecticut, Storrs, Conn.

Captain: Cadet Francis E. Dion, Jr.; *First Lieutenant:* Cadet Liudas Bajorinas; *Second Lieutenant:* Cadet Howard M. Belinsky; *First Sergeant:* Cadet Edward H. Soderberg.

ILLINI COMPANY

University of Illinois, Champaign, Illinois

Captain: Cadet Armand Ferrini; *First Lieutenant:* Cadet Kenneth Weber; *Second Lieutenant:* Cadet Charles W. Thompson; *First Sergeant:* Cadet Ray L. Allison.



DETROIT, MICH. Gov. G. Mennen Williams and Col. Herbert W. Wurtzler at the AUSA booth at Detroit Arsenal's Armed Forces Day display

JOHN CARROLL UNIVERSITY COMPANY

John Carroll University, Cleveland 18, Ohio

Captain: Cadet Thomas Halloran; *First Lieutenant:* Cadet Ronald Brill; *Second Lieutenant:* Cadet George Pfeiffer; *First Sergeant:* Cadet Jerry Forter.

LOUISIANA STATE UNIVERSITY COMPANY

Louisiana State University, Baton Rouge 3, La.

Captain: Cadet Freddy M. Keegan; *First Lieutenant:* Cadet Bobby K. Bush; *Second Lieutenant:* Cadet Fred C. Dent; *First Sergeant:* Cadet Charles A. Travis.

LOYOLA COLLEGE COMPANY

Loyola College, Baltimore 10, Md.

Captain: Cadet T. McHugh; *First Lieutenant:* Cadet K. Lee; *Second Lieutenant:* Cadet J. Murphy; *First Sergeant:* Cadet L. Romeo.

MOCCASIN COMPANY

University of Chattanooga, Chattanooga, Tenn.

Captain: Cadet John Doyle; *First Lieutenant:* Cadet Hoyt Jenkins; *Second Lieutenant:* Cadet Lawerence Putnam; *First Sergeant:* Cadet Thomas Murphy.

THE MONTANA STATE UNIVERSITY ARMY ROTC COMPANY

Montana State University, Missoula, Montana

Captain: Cadet Ronald W. Lundquist; *First Lieutenant:* Cadet Donald E. Ochs; *Second Lieutenant:* Cadet William P. Erhard; *First Sergeant:* Cadet Otto A. Bessey.

NEW YORK UNIVERSITY HEIGHTS COMPANY

New York University, New York, N. Y.

Captain: Cadet Anthony Lauria, Jr.; *First Lieutenant:* Cadet Roland Stickle; *Second Lieutenant:* Cadet Michael Katos; *First Sergeant:* Cadet Frank Stein.

Charter presented 18 May by Col. George A. Duerr, G3 US Army Military District, New York. Cadet Anthony Lauria, Jr., Captain of the Company, accepted the charter, at a formation prior to the Company's participation in the Armed Forces Day parade.

PENNSYLVANIA STATE UNIVERSITY COMPANY

The Pennsylvania State University, University Park, Pa.

Captain: Cadet George L. Beal; *First Lieutenant:* Cadet Thomas G. Hart; *Second Lieutenant:* Cadet Keith F. Vansant; *First Sergeant:* Cadet Frank H. Morris.

Lt. Gen. Charles E. Hart, Commanding General, Second U. S. Army, presented Department of the Army Commendation Ribbon with Metal Pendant to Capt. Robert M. Dwinell, Jr., Faculty Adviser, at the University on 24 May. The citation read in part: "Captain Dwinell distinguished himself through his untiring efforts, willingness and hard work in organizing the first ROTC Company of the Association of the United States Army and through his actions to raise the standards of efficiency and further the professional military education of advanced course ROTC students."

Capt. Dwinell, leaving for duty overseas, is being relieved as Adviser by Capt. John P. Gilman.

ROBERT E. SYLVEST COMPANY

Northwestern State College of Louisiana, Natchitoches, La.

Captain: Cadet Robert F. Kelley; *First Lieutenant:* Cadet Gerard Schorr; *Second Lieutenant:* Cadet Donald G. Walker; *First Sergeant:* Cadet George C. Davis.

SIENA ROTC COMPANY

St. Bernardine of Siena College, Loudonville, New York

Captain: Cadet Paul R. Riley, Jr.; *First Lieutenant:* Cadet John W. Stahlman; *Second Lieutenant:* Cadet Louis R. La Gasse; *First Sergeant:* Cadet J. Vincent Chesterfield.

ST. NORBERT COLLEGE COMPANY

St. Norbert College, West de Pere, Wisconsin

Captain: Cadet John T. Wilting; *First Lieutenant:* Cadet Raphael J. Hallada; *Second Lieutenant:* Cadet Robert E. Jossart; *First Sergeant:* Cadet James J. Reilley.

Charter presented to Capt. Wilting by The Very Reverend D. M. Burke, President of St. Norbert, 16 April.

TEXAS CHRISTIAN UNIVERSITY COMPANY

Texas Christian University, Fort Worth 9, Texas

Captain: Cadet Larry Lands; *First Lieutenant:* Cadet Frank Hyde; *Second Lieutenant:* Cadet Kenneth Howard; *First Sergeant:* Cadet Jimmy Lindsey; *Sergeants:* Cadets Ronnie Coleman, George Depee, Joe Dulle and Robert Fleming.

Maj. Gen. Thomas E. De Shazo, commanding general of the Artillery and Guided Missile Center, Fort Sill, representing Lt. Gen. Collier, presented charter to Capt. Jerry R. Williams, interim president. President M. E. Sadler, TCU, Mr. Fred Korth, former Assistant Secretary of the Army, and Dr. D. W. Danforth of Fort Worth were among the guests. The last two named were made honorary members. Gen. De Shazo spoke on the new Pentomic organization.

UNIVERSITY OF IDAHO COMPANY

University of Idaho, Moscow, Idaho

Captain: Cadet Curtis E. Anderson, Jr.; *First Lieutenant:* Cadet Warren G. Hawley; *Second Lieutenant:* Cadet Gary G. Sturman; *First Sergeant:* Cadet Larry P. McDonald.

UNIVERSITY OF TEXAS COMPANY

University of Texas, Austin 12, Texas

Captain: Cadet Robert W. Senn; *First Lieutenant:* Cadet Thomas N. Linder; *Second Lieutenant:* Cadet Lester Miller; *First Sergeant:* Cadet Robert F. Loughridge.

VALLEY FORGE COMPANY

Valley Forge Military Academy, Wayne, Pa.

Captain: Cadet Arthur C. Keogh; *First Lieutenant:* Cadet John H. Clark; *Second Lieutenant:* Cadet F. Arthur Rogers; *First Sergeant:* Cadet J. Robert Lance.

WEST TEXAS STATE COMPANY

West Texas State College, Canyon, Tex.

Captain: Cadet John C. Middleton; *First Lieutenant:* Cadet William G. Plummer; *Second Lieutenant:* Cadet James G. Coleman; *First Sergeant:* Cadet Gene E. Glazener.

THE MONTH'S BOOKS

Allied Strategy

GLOBAL STRATEGY
By Air Vice Marshal E. J. Kingston-McCloughry
Frederick A. Praeger, 1957
270 Pages; Index; $4.50

Reviewed by
COL. TREVOR N. DUPUY, Artillery, *who with his father (Col. R. Ernest Dupuy) wrote* Military Heritage of America.

A recent book, deploring the dearth of publications on strategic and security problems by American military men, asked the rhetorical question, "Where are the successors to Luce, Mahan and Upton?"

A review of recent literature in this field indicates that they have moved to England. The leading serious military authors today are two officers of the Royal Air Force, Marshal of the RAF Sir John Slessor and Air Vice Marshal E. J. Kingston-McCloughry. And what must be a galling and ironic paradox to U. S. Air Force officers is that these two proudly air-minded airmen come to conclusions far closer to our Army's strategic concepts than to those of our Air Force.

The latest contribution is Kingston-McCloughry's *Global Strategy*. Not unlike one of his own ponderous long-range bombers, this book takes a long time to get off the ground—about four chapters. But once airborne it is sparkling, witty, imaginative, and intensely thought-provoking, as was his earlier book, *The Direction of War*.

It is doubtful if anyone will agree with everything the Air Vice Marshal has to say about global strategy, and there will probably be quite a few who will find much to disagree with. Carping critics will find evidence of carelessness in errors such as the wrong number of members of NATO's Military Committee, or in minor faults of literary organization. Americans, at least, will wonder at the naïveté of the statement about the Korean conflict that "China never committed any Chinese troops as such and limited her intervention to volunteers." Some will believe that his distinction between local war and limited war is artificial. Others may feel that he is not consistent in his realistic appraisal of the effects of modern weapons and in his apparent belief that a limited war might possibly be fought today in Western Europe.

But the perceptive reader will overlook such trivial matters as he follows the brilliant exposition of thought on interservice organization, national strategy, and Allied strategy. A student of military history as well as of current affairs, Kingston-McCloughry is at his very best in discussing the historical background of present strategic problems, particularly in his clear, concise and simple analyses of the strategy of World War II. It is from his evaluation of the strategic accomplishments, and failures, of that war that he develops his major thesis.

Possession of large numbers of nuclear weapons by the major powers has rendered it unlikely that these nations will risk destruction in total war. "Our best and only means of defence is a deterrent strategy," says the author, ". . . achieved by having a nuclear bomber force supplemented by ballistic rockets . . . capable of mortal retaliation." Also needed are conventional forces of all three services, strategically deployed and possessing a high degree of mobility. "The greater the deterrent of nuclear weapons to total war," he adds, "the greater becomes the risk of local and cold wars. . . . In such conflicts the army plays the primary role, the air and naval forces being confined to a subordinate supporting role."

He contends that Allied strategy today is haphazard and not sufficiently coordinated. Even in NATO, where Allied strategy is best, there is not sufficient balance in Allied force structure, nor sufficient cohesion in the separate strategies of the various NATO nations to meet the realities of the threat. Recognizing fully the inevitable differences of national interests, he nonetheless convincingly argues that forthright and realistic national strategies can be integrated into effective Allied strategy without substantial sacrifice of national interests. In his discussion of strategy he demonstrates a clear understanding of the economic, social and (in particular) political aspects—as well, of course, as the military. Also, he stresses the importance of geography in national as well as Allied strategy.

But national strategy cannot be sound or realistic so long as the nation's military organization produces what he terms merely "a combination" of three distinct strategic concepts, based upon divergent service outlooks, rather than one truly integrated military strategy. A large portion of the book is devoted to a persuasive appeal for a far greater degree of unification of the services than exists today. And while he specifically discusses the British armed forces, it is evident throughout that he is writing as much for Americans as for Britons. And in the light of the growing attention which is being focused in this country on the question of unification, all military men concerned with this problem—whether in favor or opposed—should note the arguments of this thoughtful Briton.

The reader will find ample evidence that Kingston-McCloughry is a proud member of the RAF, and that air power considerations are at all times uppermost in his mind. This does not interfere with his objectivity on national or service matters, however, nor keep him from treating parochial views of airmen just as scathingly as those of soldiers and sailors. The theme, and the value, of the book are best summarized, in this reviewer's mind, by the following quotation:

"Paradoxically the Western obsession with all-out nuclear war may result in paralysing the power of the West to deal with local situations of peril where we may have the sledgehammer but all too few genuine nut-crackers for small though dangerous conflicts. . . . While the deterrent concept demands the resolution of Allied strategy it in turn demands of each nation within its influence, ourselves included, a strong national strategy. This last will take a long time to resolve unless the Services take a large view, not merely submitting to necessary change but endorsing it with strategical concepts which subserve the national interest."

Intelligence Production

STRATEGIC INTELLIGENCE PRODUCTION
By Brig. Gen. Washington Platt, USAR, Retired
Frederick A. Praeger, Inc., 1957
302 Pages; Index; $4.00

Reviewed by
LT. GEN. WALTER L. WEIBLE, *USA, Retired, Editor and Publisher of* ARMY, *whose last assignment was Deputy Chief of Staff for Personnel.*

What is strategic intelligence? Who uses it? How is it produced? These are the questions the author answers, based on his personal experience over a period of several years.

Aside from many quotations (which do not seem to add much to the value of the work), the style is very similar to that of a military manual. Indeed the book might well be used as a reference text on the subject. Those who are engaged in the production of intelligence or who

are interested in entering this field of endeavor, will find it of value. To others it will not be easy or fascinating reading.

The chapters devoted to a discussion of an organized method for producing strategic intelligence are the most important part of this book. The author outlines a logical and sensible approach which should go far toward producing strategic intelligence reports of greater value to those who must have them in order to arrive at sound decisions. He intentionally avoids any discussion of the methods of collecting raw information and data, but discusses in detail how to determine what data are necessary and how to employ them when they are obtained.

His chapters on probability and forecasting in the field of intelligence production may provoke some controversy among intelligence experts. Because of the value of probability-thinking in operations research, the author believes that it would be useful also in the production of intelligence.

The book does cover a field of intelligence production which is of great importance in the cold war, a field about which little has been written for public consumption. To a novice entering the intelligence community it offers a start which should prove of material benefit—to the intelligence expert it offers food for thought.

Holmes's Formative Years

JUSTICE OLIVER WENDELL HOLMES: The Shaping Years, 1841-1870
By Mark De Wolfe Howe
The Belknap Press of Harvard University Press
330 Pages; Index; $5.00

Reviewed by

COL. FREDERICK BERNAYS WIENER, *JAGC, USAR, a practicing attorney in Washington, who has contributed many articles and reviews to ARMY and its predecessors.*

Here is the first volume of the definitive biography of Justice Holmes, written by the distinguished soldier-educator who had already edited three series of the Justice's letters. It attempts to discover and explain, insofar as any biography can, the influences that shaped the career of one of the truly great Americans of all times.

One of those influences necessarily was Holmes's Civil War service, many details of which had already been published in the Justice's Civil War letters and diary. As there set forth Holmes was a company officer in the 20th Massachusetts Infantry, fought with the Army of the Potomac when not recovering from three wounds, and was mustered out with his regiment in July 1864. We learn here that, in later years, he regretted not having served through to the end, and that, although commissioned by the Governor of Massachusetts as lieutenant colonel, he was never federally mustered in with that rank, but was discharged as a captain. There is no mention of his federal postwar brevets to major, lieutenant colonel, and colonel. But the incident of Captain Holmes telling President Lincoln not to expose himself to Rebel fire at Fort Stevens within the District of Columbia during Early's raid ("Get down, you fool!") is fully discussed. This, or something very close to it, actually happened.

Most of the book is of primary interest to those whose concern is with Holmes as a lawyer, as a teacher, and, preeminently, as a judge. But the fire that touched the lad's heart in his youth continued to burn brightly to the very end. As the author puts it:

". . . To these intellectual influences which had gone to mold Holmes's mind there should be added, of course, his experience of war. From that experience Holmes had learned a special lesson. He had seen a number of his own convictions crumble when they felt the impact of reality. He had seen opposing convictions withstand the strain of war. It would always be hard for one who had been sensitive to this experience to consider that his own principles of morality were sanctioned by a cosmic or universal authority. Quite probably the skepticism of Holmes's temperament would have led him ultimately to this negative position had he never gone to war. It is doubtful, however, whether without that experience the affirmative corollary would have accompanied his doubts. From war he had learned not only to distrust his own absolutes. He had also learned to respect the convictions of others. As a logical matter there is difficulty, perhaps, in combining skepticism with enthusiasm. Certainly Holmes never reconciled, or attempted to reconcile his faith in the value of heroic action with his doubts of the cosmic significance of man. 'Our business is to commit ourselves to life, to accept at once our functions and our ignorance, and to offer our heart to fate.' "

Why You Buy

THE HIDDEN PERSUADERS
By Vance Packard
David McKay Company, 1957
275 Pages; Index; $4.00

Reviewed by

CAPT. ROGER W. LITTLE, *MSC, a graduate of the University of Chicago's School of Social Service Administration, who contributes regularly to this magazine.*

One of the most remarkable developments of our time is the spread of techniques for the simple manipulation of the public. Psychological warfare is one manifestation of the trend. By exploiting "unconscious" needs of individual consumers or soldiers it is assumed that the market (or the battle) can be influenced. In the business world the practitioners are an army of psychologists dedicated to the field of "Motivation Research."

The author has collected comments about this movement which have appeared in popular periodicals, and such trade journals as *Fortune* and *Business Week*. To these he has added some "Depth Interviews" with those who practice the occult art themselves. The material ranges from the zealous endorsements of the proponents to the uneasy stirrings of the doubting managers and consumers. On first reading one finds the theories a joke: that men buy a hard-top convertible because of their secret desires for a mistress, that women in baking a cake are "acting out the birth of a child," or that the home freezer is a symbol of security—a hangover from the food shortages of World War II.

The "research" may consist of "depth interviews" with a small number of persons who are willing to lie on a couch and have their inner needs explored. At other times the insights come from surveys by questionnaire. (Both are good methods when used for appropriate problems.) A method used by the biggest man in the field—a nonmedical psychoanalyst—is merely to spin theories off the top of his head. The end result is a set of hunches (disguised as "scientific" discoveries) which guide producers in the design or modification of whatever they offer to the public. If we buy it, the new science is assumed to be the cause, not the intrinsic qualities of the article. If we don't buy it, the producers find someone with a different theory of what we unconsciously desire. But what we really want doesn't seem to matter very much.

It is no laughing matter by the time of the second reading. The author indicates the hidden dangers. Foremost is the morality of exploiting anxieties, complexes, and neuroses to make the buyer act right in the marketplace. A society depends on people acting logically and predictably, *most of the time*. Motivation research would change this to create a society dominated by the unconscious strivings of unpredictable consumers and citizens.

As a social scientist, this reviewer sees another danger: that such misuse of science will ultimately degrade it. The scientist deserves respect and immunity from criticism only to the extent that he accepts his responsibility to work for the good of the society. When that responsibility is rejected (as it is by the Persuaders) he is no longer entitled to the same respect. And with him may fall the others who have kept the trust.

Packard will have done a great public service if he awakens the exploited pub-

lic, as well as the gullible employers of the Persuaders, to the dangers that lie ahead. One cannot read this book without wondering why—in a critical, cynical, pragmatic society such as ours—such theories could become so widely accepted. For when the bright and positive words have passed, and the disagreeable facts remain, something more is needed. Hopefully, this book marks the end of an era in which the public has been secretly tranquilized. Now how shall we deal with the hangover?

Analysis of Red China

COMMUNIST CHINA TODAY: Domestic and Foreign Policies
By Peter S. H. Tang
Frederick A. Praeger, Inc., 1957
533 Pages; Bibliography; Index; $10.00

Reviewed by
COL. CHARLES A. H. THOMSON, Infantry, *USAR, a staff member of The Brookings Institution in Washington.*

Peter S. H. Tang, former member of the Chungking Ministry of Foreign Affairs and attaché in Moscow, and more latterly a scholar of Communist subjects under American auspices, has cast up a lengthy amalgam of fact and analysis throwing light on the origins, the current state, and the future prospects of Red China. Nothing in the analysis would surprise a good working member of the Department of State or of the U. S. Information Agency. Communist China is firmly in the saddle, and the task for America is to remain strong in opposing a foe following this simple strategy: "fight, negotiate; fight, negotiate; fight, negotiate; and then, Kill!" Hence no periodic relaxations of tension can be counted on to lead to lasting settlement, whether or not the Chicoms are admitted to the United Nations or are recognized by the United States. "For what they seek ultimately is not, as they claim, the good will of other nations and the peace of the world but rather the cause of Communism."

Chinese Communism is not unique; it represents an application to the Chinese mainland of the principles of international Communism, under leaders wholeheartedly devoted to the movement and who cooperate closely with the Soviet leaders. Therefore Tang considers the roots of international Communism and its manifestations and operations on the Chinese mainland. He sketches in both ideological and historical background, emphasizing Mao's relation to Marx, Lenin and Stalin. He delineates the character of the current leadership, and describes the party and government machines in their close-linked relations. He touches on economic matters and social structure, with side glances at the military structure and propaganda. He devotes a longish chapter to the Moscow-Peking Axis, and estimates no break will ensue between Communist China and the Soviet satellites, between the Chicoms and Southeast Asia, the West, and the United States. And then asks the perennial question: whither? For the scholarly he appends a bibliography in six languages, and promises, under separate cover, texts of party and state Constitutions, a chronology of events since 1918, and other reference aids. It is too bad these are under separate cover, for the chief value of this book is as a reference aid itself. Much that remains obscure to even the attentive newspaper reader concerning the personality struggles and the party battles among the Chicoms is cleared up here. And there is sound guidance to the bewildering intricacies of the organization of state and party, including the relations between military organization, government organization, and party domination. Tang is more at home with politics and ideology than he is with economics and social movements; but his assemblage of quotations and data is helpful throughout. And his counsel is conservative: we must keep up the pressure, for no inner stresses will pull down this edifice for us.

Twelve for the Price of One

UNITED STATES ARMY IN WORLD WAR II: The Technical Services. The Transportation Corps: Operations Overseas
By Joseph Bykovsky and Harold Larson
Office of the Chief of Military History, 1957
671 Pages; Illustrated; Maps; Index; $6.50

Reviewed by
MAJOR JOHN E. MURRAY, TC, *who is serving on a special detached assignment from the Office of the Chief of Transportation.*

In Victor Hugo's words, "Indigestion is God's way of enforcing morality upon the stomach." So too, history is the Army's way of prescribing principles of conduct to prevent recurring troubles in its insides. Indigestion hurts. So does the indignity of hard truths. They are unpalatable facts that give mental dyspepsia. But they have lesson-serving impact for those who would thrive on sad experience.

This book has that impact.

Here it is: The crippling use of ships as floating warehouses; the suicidal dangers of selective discharge; disrupting discord between port and base commanders; the assault on Sicily and its adverse effect on a beachhead in Burma; preshipment of supplies that results in their burial and resultant shipment of twice or thrice the need; the prize in nincompoopism merited for amphibian assault cargo delivered in corrugated-paper boxes; foreign labor reluctant to accept labor-saving devices; the questionable practice of indiscriminate bombing; the strange persistence of requisitions after the end of hostilities; roads without signs; efficiency experts muddling about in the midst of combat; confusion caused by hush-hush.

All this and more, as the authors say, "Serves to emphasize rather than detract from T.C. performance." This crowning work of the three volumes encompassing the history of the Transportation Corps in World War II is concerned with operations overseas. The first two volumes dealt with back-up and build-up. This is the wind-up, and the authors have a fascinating pitch. Certainly a book-buyer's bargain, it proves again that things come cheaper by the dozen.

You expect to get one history, but for the price of one the buyer gets twelve. There is one cover, but there are twelve histories, each a rounded saga in itself, of birth, growth and finale. Each a tale of toil, tribulation and triumph. Of how the Army moved its men and its mountains of matériel, to and within North Africa, the South Pacific, the Persian Corridor, and nine other vast pieces of the earth's topography for the most part apparently designed by Nature to inflict inertia on movement.

A virtual paralysis of means and modes of transport, in the modern sense, confronted the Corps on a global scale. Where it approximated up-to-date standards, the British stopped for tea, and the Australian stevedore contracts were so contrived as to place a bonus on slow motion.

How the Transportation Corps managed to instill a spanking velocity of movement into a vegetating fixity of land and people is a narrative that suggests Olympian hocus-pocus, but which proves in reality to be an artless honesty of effort under the leadership of plain-spoken men.

The Transportation Corps itself is an abstraction. It is made up of people. A few, symbolizing the achievement, directed the prodigious movement of the mass and the many. These few stand out.

True to current histories issued by the Department of the Army, there is a scrupulous avoidance of eulogy, or censure. The facts are given. Praise is not. It is largely for the reader to draw conclusions from the recorded events as to whom should be extolled, or condemned, or merely twitted. The conclusions are nevertheless forcefully evident.

Seeping through the facts is the heroic stature of certain men. There is Ross in Europe, Yount in the Persian Corridor and CBI, Wanamaker in the Pacific, and, of course, Gross, the Chief, in the Pentagon. Ross, who had the audacity to forthrightly criticize his superiors; Gross, who had the breadth of character to accept and act upon the criticism; Yount, who, colossus-like, straddled two theaters, in one adeptly practicing the lost

art of talking to the Russians, in the other exhibiting the peak of transportation virtuosity as a gifted breaker of bottlenecks. And the doughty Wanamaker, willing to give up position and promotion, rather than the principle of theater unity for Transportation.

The Corps overseas was part of a survival test that required it to grow up and to fight while growing. Errors were to be expected.

A gradual, orderly, peacetime planned and developed Transportation Corps could have been a tame event. But whelped in the crucible of war, one can easily forgive the wild results of some of its good intentions. Mistakes were made, but here is the point: If this work is put to its purpose, they need not be made again.

This is more than a checklist for logisticians; no mere remembrance of things past. The authors have ably served up stern and necessary sustenance.

Versatile Mariners

THE SHIP WITH TWO CAPTAINS
By Terence Robertson
E. P. Dutton & Company, 1957
256 Pages; Illustrated; $3.95

Reviewed by
COL. S. LEGREE, *the pseudonym of an Artilleryman of long service in USAR.*

HMS *Seraph* was the submarine that took General Mark Clark to North Africa on his famous pre-invasion meeting with French authorities. With this as a precedent, *Seraph* was chosen for many other delicate operations, including picking up General Giraud from France to take him to North Africa. On this mission, Captain Jerry Wright, USN (now Admiral Jerauld Wright and SACLANT), had nominal command of "USS" *Seraph* because the General insisted that he would not deal with the British—hence the two captains of the title.

Seraph's story, written by a professional writer, will hardly be considered a prime source of history, but it is a rollicking, lightly written account of a ship and a crew who were long on courage and short on taking themselves too seriously. One bit that must be mentioned, even in a short review, concerns *Seraph* at Gela, where she served as a guardian for a beacon buoy that insured the landings would be made at the right spot. Under fire, and wishing she could get out of her exposed position, an American landing craft was sighted approaching, with a U. S. Navy captain in her stern. "Ahoy, *Seraph!* The Admiral has sent me over to thank you personally in his name for a great job of work." As the author writes, "Surely Admirals like this in Navies like this existed only in the dreams of junior officers who at best could look forward to a curt 'well done'."

They'll Never Know From This

OFF LIMITS: A Novel
By Hans Habe
Frederick Fell, Inc., 1957
466 Pages; $4.95

Reviewed by
CAPT. ROGER W. LITTLE

More than a decade has passed since the first stages of the American occupation of Germany. Yet there are few accurate chronicles of what actually took place between the conquerer and the vanquished. Of the millions of Americans who passed through Germany during that critical period, few paused to publish their experiences and to set the record straight. The result is to simplify the task of a novelist who wants to work strictly from fantasy with only a slight measure of reality.

This is what Hans Habe (ex-major, U. S. Army) does in *Off Limits*. The central character is Major O'Hara, a perverted MP officer who establishes an equally perverted relationship with Frau Gruss, the sadistic and masochistic wife of an ex-commandant of a concentration camp. His consorting is threatened by the investigation of Major Green of CIC. All the characters are either heroes or villains. The heroes love the Germans and try to win back their love. The villains hate the vanquished and have a field day of sexual and financial deals. For the sake of pity, there are people like Elizabeth von Zutraven, wife of an imprisoned high-ranking Nazi, who helped to save condemned families. There is Inge Schmidt, a little waif, who is led to prostitution to satisfy her German father's desire for American cigarettes. And there is Dr. Adam Wild, whose anti-Nazi activities during the war went unrecognized by the Americans.

The central theme in this novel is real: the effects of an anonymous social role. The soldier behaves differently, often in a primitive manner, precisely because the audiences observing him (the natives) are not significant. His behavior becomes comparable to that of the travelling salesman, while travelling. Separation from home and family inevitably weakens social controls, and the individual is increasingly dependent on what he really is, rather than the person he pretends to be.

The purpose of a novel is to entertain by introducing dramatic behavior, within the bounds of experience, in a familiar scene. The behavior here is indeed dramatic, but little of the behavior of the major characters and not much of the scene is familiar. *Off Limits* will be eagerly read and cited by those who will never care to know what actually went on between soldiers other than Majors O'Hara and Green, and Germans other than Frau Gruss and Inge Schmidt.

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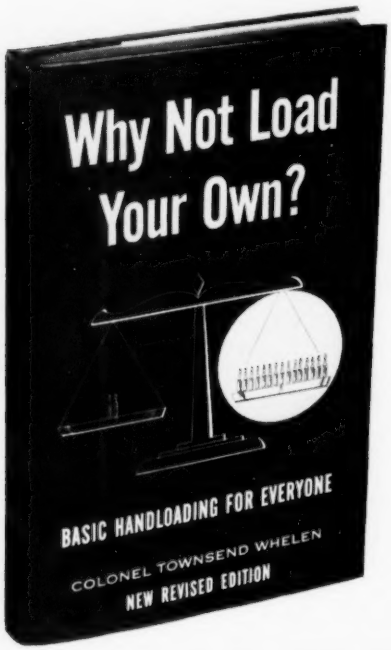

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